GenCore version 5.1.9

OM protein - protein search, using sw model

Run on: September 27, 2006, 10:03:52 ; Search time 193 Seconds
(without alignments)
1731.737 Million cell updates/sec

Title: US-10-722-189-2
Perfect score: 3782
Sequence: 1 MDTSGHFHDSGVGDLDEDPK.....SPIGVSSTSFPTPYTSSSSC 731

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2589679 seqs, 457216429 residues

Total number of hits satisfying chosen parameters: 2589679

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 120 summaries

Database : A_Geneseq_8:*.
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*
10: geneseqp2006s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	3766	99.6	731	2	AAY32018	Aay32018 Human cat
2	3766	99.6	731	8	ADI38332	Adi38332 Human cat
3	3766	99.6	731	10	AEE68558	Aee68558 Human cal
4	3705.5	98.0	736	6	ABR81972	Abr81972 Human SK-
5	3705.5	98.0	736	7	ADE31741	Ade31741 Human 122
6	3705.5	98.0	736	8	ADU48495	Adu48495 Protein o
7	3699	97.8	735	10	AEF80134	Aef80134 Cancer-as
8	3697.5	97.8	736	2	AAW63717	Aaw63717 Human hSK
9	3697	97.8	731	9	ADV70180	Adv70180 Tumor-ass
10	3692	97.6	731	2	AAW96312	Aaw96312 Human sma
11	3548.5	93.8	732	2	AAW63715	Aaw63715 Rat rSK3
12	3296	87.1	695	10	AEF80129	Aef80129 Cancer-as
13	2794	73.9	557	2	AAW63708	Aaw63708 Truncated
14	2701	71.4	553	2	AAW63703	Aaw63703 Truncated
15	2219.5	58.7	847	5	ABB76164	Abb76164 Human pot
16	2070.5	54.7	579	2	AAW63707	Aaw63707 Human hSK
17	2070.5	54.7	579	5	ABG61870	Abg61870 Prostate
18	2070.5	54.7	579	7	ADN39278	Adn39278 Cancer/an
19	2070.5	54.7	579	7	ADN39614	Adn39614 Cancer/an
20	2070.5	54.7	579	9	AEA18857	Aea18857 Amino aci
21	2070	54.7	580	9	AEA18856	Aea18856 Amino aci
22	2050	54.2	580	2	AAW63702	Aaw63702 Rat rSK2
23	1785	47.2	561	2	AAW63701	Aaw63701 Human hSK
24	1763	46.6	543	7	ADD46553	Add46553 Human Pro
25	1712	45.3	536	7	ADD46551	Add46551 Rat Prote
26	1699.5	44.9	458	2	AAW63704	Aaw63704 Rat rSK1
27	1628	43.0	330	10	AEF80132	Aef80132 Cancer-as
28	986.5	26.1	217	2	AAW67823	Aaw67823 Human sec
29	907.5	24.0	247	4	ABG07471	Abg07471 Novel hum
30	861	22.8	438	8	ABO84996	Abo84996 Murine ca
31	859.5	22.7	425	2	AAW98019	Aaw98019 Mouse cal
32	859.5	22.7	425	5	ABB99106	Abb99106 Mouse int
33	859.5	22.7	425	9	ADZ13495	Adz13495 Murine ca
34	859.5	22.7	425	9	AEA55059	Aea55059 Mouse cal
35	848	22.4	427	2	AAW98017	Aaw98017 Human cal
36	848	22.4	427	2	AAY24925	Aay24925 Human IKC
37	848	22.4	427	5	ABB99105	Abb99105 Human int
38	848	22.4	427	5	AAE23217	Aae23217 Human IKc
39	848	22.4	427	7	ADB75368	Adb75368 Prostate
40	848	22.4	427	7	ADK52570	Adk52570 Hematolog
41	848	22.4	427	7	ADN40050	Adn40050 Cancer/an
42	848	22.4	427	8	ADR14589	Adr14589 Human NF-
43	848	22.4	427	8	ABO84997	Abo84997 Human can
44	848	22.4	427	8	ADP23708	Adp23708 PRO polyp
45	848	22.4	427	8	ADT51048	Adt51048 Cancer re
46	848	22.4	427	9	ADY15322	Ady15322 PRO polyp
47	848	22.4	427	9	ADY19668	Ady19668 PRO polyp
48	848	22.4	427	9	ADZ13498	Adz13498 Human can
49	829.5	21.9	428	2	AAW63713	Aaw63713 Human hIK
50	760	20.1	395	8	ADH22552	Adh22552 Human tra
51	737.5	19.5	186	2	AAW67899	Aaw67899 Human sec
52	723	19.1	606	4	ABG15588	Abg15588 Novel hum
53	719	19.0	401	8	ADT51045	Adt51045 Cancer re
54	701	18.5	377	3	AAY70453	Aay70453 Human mem
55	665	17.6	196	4	ABB60468	Abb60468 Drosophil
56	665	17.6	282	4	ABB72017	Abb72017 Drosophil
57	642	17.0	806	4	ABG07472	Abg07472 Novel hum
58	642	17.0	806	4	ABG15589	Abg15589 Novel hum
59	588	15.5	151	7	ADF60329	Adf60329 Human con
60	580	15.3	151	4	ABG07470	Abg07470 Novel hum
61	562	14.9	130	8	ABO58157	Abo58157 Human gen
62	500.5	13.2	207	2	AAW74922	Aaw74922 Human sec
63	500.5	13.2	207	5	ABG95376	Abg95376 Human nov
64	500.5	13.2	207	6	ABO34570	Abo34570 Region of
65	500.5	13.2	207	7	ADI23231	Adi23231 Novel hum
66	500.5	13.2	207	8	ADH74233	Adh74233 Human sec
67	497.5	13.2	232	2	AAW75031	Aaw75031 Fragment
68	497.5	13.2	232	5	ABG95493	Abg95493 Human nov
69	497.5	13.2	232	6	ABO34687	Abo34687 Fragment
70	497.5	13.2	232	7	ADI23348	Adi23348 Novel hum
71	497.5	13.2	232	8	ADH74350	Adh74350 Human sec
72	497.5	13.2	252	2	AAW74743	Aaw74743 Human sec
73	497.5	13.2	252	5	ABG95192	Abg95192 Human nov
74	497.5	13.2	252	6	ABO34386	Abo34386 Region of
75	497.5	13.2	252	7	ADI23047	Adi23047 Novel hum
76	497.5	13.2	252	8	ADH74049	Adh74049 Human sec
77	469.5	12.4	322	4	ABG15587	Abg15587 Novel hum
78	436.5	11.5	256	9	AEB88214	Aeb88214 Human pro
79	405	10.7	167	9	ADZ13493	Adz13493 Murine ca
80	396	10.5	134	4	ABB11331	Abb11331 Human Ca-
81	310	8.2	157	9	ADZ13489	Adz13489 Murine ca
82	304	8.0	58	8	ADI38353	Adi38353 Human pot
83	304	8.0	58	10	AEE68581	Aee68581 Human pot
84	263	7.0	113	3	AAY70464	Aay70464 Human mem
85	251	6.6	51	2	AAY24926	Aay24926 Human IKC
86	226	6.0	359	4	ABB67964	Abb67964 Drosophil
87	222	5.9	193	4	ABG07473	Abg07473 Novel hum
88	220	5.8	86	7	ADF58990	Adf58990 Human pol
89	199	5.3	985	8	ADI30147	Adi30147 Drosophil
90	199	5.3	985	8	ADI30143	Adi30143 Drosophil
91	196.5	5.2	1369	4	ABB60040	Abb60040 Drosophil
92	193	5.1	684	4	AAU09146	Aau09146 Enabled p
93	192	5.1	671	4	ABB70160	Abb70160 Drosophil
94	188	5.0	985	4	ABB57774	Abb57774 Drosophil
95	188	5.0	1019	4	ABB67198	Abb67198 Drosophil
96	186	4.9	785	8	ADP98983	Adp98983 C. albica

97	185.5	4.9	1455	7	ADJ70088	Adj70088 Human hea
98	185.5	4.9	1455	8	ADP55609	Adp55609 Human PRO
99	185.5	4.9	1455	9	ADZ47345	Adz47345 Human NFA
100	185.5	4.9	1455	10	AEF13864	Aef13864 Human NFA
101	185.5	4.9	1484	6	ABJ19780	Abj19780 Human MP2
102	185.5	4.9	1484	9	ADZ47339	Adz47339 Human NFA
103	185.5	4.9	1484	10	AEF13866	Aef13866 Human NFA
104	185.5	4.9	1531	7	ADE25752	Ade25752 Human pro
105	185.5	4.9	1531	8	ADN04313	Adn04313 Antipsori
106	185.5	4.9	1531	10	AEF13868	Aef13868 Human NFA
107	184	4.9	370	8	ADQ67603	Adq67603 Novel hum
108	184	4.9	1798	4	ABB71695	Abb71695 Drosophil
109	183.5	4.9	2150	5	AAO22566	Aao22566 Wooden le
110	182.5	4.8	1099	6	AAE37149	Aae37149 Drosophil
111	181	4.8	1024	6	AAG79909	Aag79909 MECT1-MAM
112	181	4.8	1153	6	AAG79910	Aag79910 MAML2. 4/
113	181	4.8	1153	7	ADC59310	Adc59310 Human pol
114	180.5	4.8	2435	4	ABB60448	Abb60448 Drosophil
115	179.5	4.7	420	3	AAY53025	Aay53025 Human sec
116	179	4.7	2439	4	ABB68896	Abb68896 Drosophil
117	178.5	4.7	776	4	ABB69280	Abb69280 Drosophil
118	178	4.7	4952	5	ADH47759	Adh47759 NOV18 pro
119	178	4.7	4952	7	ADP68294	Adp68294 Human NOV
120	178	4.7	4952	8	ADL25642	Adl25642 Human dia

ALIGNMENTS

```
RESULT 1
AAY32018
ID   AAY32018 standard; protein; 731 AA.
XX
AC   AAY32018;
XX
DT   05-JAN-2000  (first entry)
XX
DE   Human cation channel protein.
XX
KW   Cation channel protein; CCP; ion transport; arrhythmia;
KW   diabetes mellitus; seizure; asthma; hypertension; therapy;
KW   protein engineering; human.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          61. .119
FT                   /note= "crystal region"
XX
PN   WO9947923-A2.
XX
PD   23-SEP-1999.
XX
PF   22-MAR-1999;   99WO-US006307.
XX
PR   20-MAR-1998;   98US-00045529.
PR   02-APR-1998;   98US-00054347.
XX
PA   (UYRQ ) UNIV ROCKEFELLER.
XX
PI   Mackinnon R;
XX
DR   WPI; 1999-601131/51.
XX
PT   Assays for screening compounds which interact with cation channel
PT   proteins, useful for providing agents for treatment of diseases.
XX
PS   Claim 21; Page 148-150; 165pp; English.
XX
CC   The present sequence represents a human cation channel protein (CCP). The
CC   invention provides an assay for screening potential drugs or agents which
CC   interact with CCPs using prokaryotic CCPs (such as those given in
CC   AAY32009-12) mutated, using recombinant DNA technology, to mimic the
CC   physiological function and chemical properties of a functional eukaryotic
CC   CCP (such as those given in AAY32013-22). An example of a mutated
CC   prokaryotic CCP is given in AAY32024. The crystal region of the CCP may
CC   also be used in the assay. The drugs or agents obtained can be used to
CC   treat conditions related to the function of CCP in vivo, such as cardiac
CC   arrhythmia, diabetes mellitus, seizure disorder, asthma or hypertension.
CC   The invention has overcome the physical limitations regarding the
CC   isolation and purification of eukaryotic CCPs
XX
SQ   Sequence 731 AA;

  Query Match             99.6%;  Score 3766;  DB 2;  Length 731;
  Best Local Similarity   99.6%;  Pred. No. 1.1e-305;
  Matches  728;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120

Qy        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180

Qy        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SGGVMKPLSRFSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240

Qy        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300

Qy        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360

Qy        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420

Qy        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480

Qy        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540

Qy        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600
              |||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Db        541 VVARKLELTKAEKHVDNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600

Qy        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660

Qy        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||
Db        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDTPIGVSSTS 720

Qy        721 FPTPYTSSSSC 731
              ||||||||||| 
Db        721 FPTPYTSSSSC 731


RESULT 2
ADI38332
ID   ADI38332 standard; protein; 731 AA.
XX
AC   ADI38332;
```

```
XX
DT   22-APR-2004  (first entry)
XX
DE   Human cation channel protein crystal sequence #3.
XX
KW   Potassium ion channel protein; drug screening; asthma;
KW   cardiac arrhythmia; diabetes mellitus; seizure disorder; hypertension;
KW   therapy; human.
XX
OS   Homo sapiens.
XX
PN   US6641997-B1.
XX
PD   04-NOV-2003.
XX
PF   24-MAR-1999;   99US-00275252.
XX
PR   20-MAR-1998;   98US-00045529.
PR   02-APR-1998;   98US-00054347.
XX
PA   (UYRQ ) UNIV ROCKEFELLER.
XX
PI   Mackinnon R;
XX
DR   WPI; 2004-068215/07.
XX
PT   Screening compounds that binds to potassium ion channel protein by
PT   complexing channel protein to solid support, contacting complex with
PT   solution, determining selective binding of compound to channel protein.
XX
PS   Disclosure; SEQ ID NO 10; 81pp; English.
XX
CC   The present invention provides a method for screening compounds which
CC   selectively bind to a potassium ion channel protein. The method involves
CC   complexing functional two transmembrane domain type potassium ion channel
CC   protein to solid support, contacting the complexed protein/solid support
CC   with an aqueous solution, and determining whether the compound
CC   selectively binds to ion channel protein which is in the form of a
CC   tetrameric protein. Methods of the invention are useful for screening
CC   drugs or therapeutic agents which is useful for treating conditions
CC   related to the function of cation channel proteins such as asthma,
CC   cardiac arrhythmia, diabetes mellitus, seizure disorder and hypertension.
CC   The present sequence is cation channel protein crystal sequence. This
CC   sequence is used in the invention.
XX
SQ   Sequence 731 AA;

  Query Match             99.6%;  Score 3766;  DB 8;  Length 731;
  Best Local Similarity   99.6%;  Pred. No. 1.1e-305;
  Matches  728;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120

Qy        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180

Qy        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SGGVMKPLSRFSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240

Qy        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300

Qy        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360

Qy        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420

Qy        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480

Qy        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540

Qy        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600
              |||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Db        541 VVARKLELTKAEKHVDNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600

Qy        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660

Qy        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||:||||||||
Db        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDTPIGVSSTS 720

Qy        721 FPTPYTSSSSC 731
              ||||||||||| 
Db        721 FPTPYTSSSSC 731


RESULT 3
AEE68558
ID   AEE68558 standard; protein; 731 AA.
XX
AC   AEE68558;
XX
DT   09-FEB-2006  (first entry)
XX
DE   Human calcium-activated potassium channel protein, cal_act, SEQ ID: 10.
XX
KW   Potassium channel; drug screening; therapeutic;
KW   modulator of potassium ion channel function; cardiac arrhythmia;
KW   antiarrhythmic; diabetes mellitus; antidiabetic; seizure;
KW   epilepsy & convulsion; anticonvulsant; asthma; antiasthmatic;
KW   hypertension; hypotensive.
XX
OS   Homo sapiens.
XX
PN   US2005272093-A1.
XX
PD   08-DEC-2005.
XX
PF   03-JUL-2003; 2003US-00613744.
XX
PR   20-MAR-1998;   98US-00045529.
PR   02-APR-1998;   98US-00054347.
PR   24-MAR-1999;   99US-00275252.
XX
PA   (MACK/) MACKINNON R.
XX
PI   Mackinnon R;
XX
DR   WPI; 2006-044480/05.
DR   GENBANK; AAC26099.
XX
PT   Screening potential drugs or agents which interact with cation channel
PT   protein, by contacting drug or agent to channel protein conjugated to
PT   solid phase resin, and determining whether drug or agent is bound to
PT   cation channel protein.
XX
PS   Claim 21; SEQ ID NO 10; 87pp; English.
XX
```

CC The present invention relates to assays for screening drugs or agents
CC that can interact and potentially bind to cation channel proteins and
CC potentially have uses in treating conditions related to the function of
CC cation channel proteins. The invention is useful in an assay for
CC screening potential drugs or agents which interact with the cation
CC channel protein and is useful for producing a mutant cation channel. The
CC cation channel protein, particularly potassium cation channel protein, is
CC useful in the development of drugs or therapeutic agents for treating
CC conditions such as cardiac arrhythmia, diabetes mellitus, seizure
CC disorder, asthma and hypertension. The present sequence is human calcium-
CC activated potassium channel protein.
XX
SQ Sequence 731 AA;

Query Match 99.6%; Score 3766; DB 10; Length 731;
Best Local Similarity 99.6%; Pred. No. 1.1e-305;
Matches 728; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

```
Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120

Qy        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180

Qy        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240
              |||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SGGVMKPLSRFSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240

Qy        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300

Qy        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360

Qy        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420

Qy        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480

Qy        481 CERYHDQQDVTSNPLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 CERYHDQQDVTSNPLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540

Qy        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600
              |||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Db        541 VVARKLELTKAEKHVDNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600

Qy        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660

Qy        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720
              |||||||||||||||||||||||||||||||||||||||||||||||||:||||||||||||
Db        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDTPIGVSSTS 720

Qy        721 FPTPYTSSSSC 731
              ||||||||||||
Db        721 FPTPYTSSSSC 731
```

RESULT 4
ABR81972

ID ABR81972 standard; protein; 736 AA.
XX
AC ABR81972;
XX
DT 19-SEP-2003 (first entry)
XX
DE Human SK-3 calcium activated potassium channel protein SEQ ID NO:2.
XX
KW Human; calcium-activated potassium channel; SK-3; vasotropic; angina;
KW antianginal; cerebroprotective; hypotensive; gene therapy; hypertension;
KW male sexual organ dysfunction; female sexual organ dysfunction; stroke;
KW vascular disorder; erectile dysfunction.
XX
OS Homo sapiens.
XX
PN WO2003055505-A2.
XX
PD 10-JUL-2003.
XX
PF 19-DEC-2002; 2002WO-GB005813.
XX
PR 21-DEC-2001; 2001GB-00030704.
XX
PA (GLAX) GLAXO GROUP LTD.
XX
PI Chen M, Trezise D;
XX
DR WPI; 2003-559254/52.
DR N-PSDB; ACF03947.
XX
PT Use of SK-3 calcium activated potassium channel polypeptides and
PT polynucleotides, for manufacturing a medicament for treating male or
PT female sexual organ dysfunctions, or vascular disorders, e.g. angina,
PT stroke and hypertension.
XX
PS Disclosure; Page 22; 40pp; English.
XX
CC The present invention describes the use of a compound for manufacturing a
CC medicament for treating male or female sexual organ dysfunctions, or
CC vascular disorders such as angina, stroke and hypertension. The compound
CC is an SK-3 calcium activated potassium channel polypeptide; activates or
CC inhibits an SK-3 calcium activated potassium channel polypeptide; or is a
CC polynucleotide encoding an SK-3 calcium activated potassium channel
CC polypeptide. Also described is a method of screening for compounds that
CC act as agonists or antagonists of SK-3 calcium activated potassium
CC channel polypeptides for use in the preparation of a medicament for
CC treating male sexual organ dysfunctions (e.g. erectile dysfunction),
CC female sexual organ dysfunctions, or vascular disorders such as angina,
CC stroke and hypertension. The compound has vasotropic, antianginal,
CC cerebroprotective and hypotensive activities, and can be used in gene
CC therapy. The SK-3 calcium activated potassium channel polypeptide,
CC compounds that activate or inhibit the polypeptide, or polynucleotides
CC encoding the polypeptide are useful for manufacturing a medicament for
CC treating male or female sexual organ dysfunctions, or vascular disorders
CC such as angina, stroke and hypertension. The present sequence represents
CC the human SK-3 calcium activated potassium channel protein, which is
CC given in the exemplification of the present invention
XX
SQ Sequence 736 AA;

Query Match 98.0%; Score 3705.5; DB 6; Length 736;
Best Local Similarity 98.0%; Pred. No. 1.3e-300;
Matches 721; Conservative 0; Mismatches 10; Indels 5; Gaps 1;

```
Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              |||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQS-----PHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 115
              ||||||||||||||||||||      ||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 120

Qy        116 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 175
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 180

Qy        176 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 235
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 240

Qy        236 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 295
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 300

Qy        296 VVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWR 355
                ||||||||||||||||||||||||| |||||||||||||||| |||||||| |||||
Db        301 VVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDWR 360

Qy        356 IAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRL 415
                |||||||||||||||    | ||||||||| ||||||||||||||||||||||||||||||
Db        361 IAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRL 420

Qy        416 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 475
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 480

Qy        476 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 535
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 540

Qy        536 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 595
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 600

Qy        596 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 655
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 660

Qy        656 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 715
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 720

Qy        716 VSSTSFPTPYTSSSSC 731
                ||||||||||||||||
Db        721 VSSTSFPTPYTSSSSC 736
```

RESULT 5
ADE31741
ID ADE31741 standard; protein; 736 AA.
XX
AC ADE31741;
XX
DT 29-JAN-2004 (first entry)
XX
DE Human 12208 protein #SEQ ID 98.
XX
KW Antiarteriosclerotic; cardiant; vasotropic; antiinflammatory;
KW thrombolytic; antiarrhythmic; antianginal; hypotensive; gene therapy;
KW cardiovascular; disorder; ischaemia; aortic bending;
KW vascular heart disease; endocarditis; atrial fibrillation; heart failure;
KW angina; cardiomyopathy; cardiac death.
XX
OS Homo sapiens.
XX
PN WO2003065984-A2.
XX
PD 14-AUG-2003.
XX
PF 29-JAN-2003; 2003WO-US002571.
XX
PR 01-FEB-2002; 2002US-0353224P.
PR 15-MAR-2002; 2002US-0364529P.
PR 19-APR-2002; 2002US-0373861P.
PR 29-APR-2002; 2002US-0376287P.
PR 12-JUN-2002; 2002US-0388080P.
PR 24-JUN-2002; 2002US-0390971P.
PR 03-JUL-2002; 2002US-0394130P.
PR 10-JUL-2002; 2002US-0394797P.
PR 21-AUG-2002; 2002US-0404904P.
PR 23-AUG-2002; 2002US-0405450P.
PR 04-SEP-2002; 2002US-0408070P.
PR 06-NOV-2002; 2002US-0424300P.
PR 05-DEC-2002; 2002US-0431042P.
PR 05-DEC-2002; 2002US-0431079P.
XX
PA (MILL-) MILLENNIUM PHARM INC.
XX
PI Logan TJ, Chun M, Galvin KM, Healy A, Acton SL, Donaghue M;
PI Stagliano N, Perodin J, Rodrigue-Way A;
XX
DR WPI; 2003-731468/69.
DR N-PSDB; ADE31740.
XX
PT Identifying a compound capable of treating a cardiovascular disorder
PT (e.g. atherosclerosis) comprises assaying the ability of the compound to
PT modulate the expression or activity of e.g. 1682, 6169 or 6193
PT polypeptide or nucleic acid.
XX
PS Disclosure; SEQ ID NO 98; 328pp; English.
XX
CC The invention relates to a method for identifying a compound capable of
CC treating a cardiovascular disorder. The present invention identifies the
CC differential expression of 1682, 6169, 6193, 7771, 14395, 29002, 33216,
CC 43726, 69292, 21656, 32427, 2402, 7747, 1720, 9151, 60491, 1371, 7077,
CC 33207, 1419, 18036, 16105, 38650, 14245, 58848, 1870, 25856, 32394, 3484,
CC 345, 9252, 9135, 10532, 18610, 8165, 2448, 2445, 64624, 84237, 8912,
CC 2868, 283, 2554, 9464, 17799, 26686, 43848, 32135, 12208, 2914, 51130,
CC 19489, 21833, 2917, 59590, 15992, 2094, 2252, 3474, 9792, 15400, 1452 or
CC 6585 genes in cardiovascular disease states. The methods are useful in
CC diagnosing, preventing and treating cardiovascular disorders, such as
CC atherosclerosis, cardiac hypertrophy, ischaemia, reperfusion injury,
CC restenosis, arterial inflammation, vascular wall remodeling, coronary
CC microembolism, tachycardia, bradycardia, pressure overload, aortic
CC bending, coronary artery ligation, vascular heart disease, valvular
CC disease, including but not limited to, valvular degeneration caused by
CC calcification, rheumatic heart disease, endocarditis, or complications of
CC artificial valves; atrial fibrillation, long-QT syndrome, congestive
CC heart failure, sinus node dysfunction, angina, heart failure,
CC hypertension, atrial fibrillation, atrial flutter, pericardial disease,
CC including but not limited to, pericardial effusion and pericarditis;
CC cardiomyopathies, e.g. dilated cardiomyopathy or idiopathic
CC cardiomyopathy, myocardial infarction, coronary artery disease, coronary
CC artery spasm, ischaemic disease, arrhythmia, sudden cardiac death and
CC cardiovascular developmental disorders. The methods may also be used for
CC identifying compounds that modulate cardiovascular disorders. Sequences
CC given in ADE31644-ADE31769 represent the genes and proteins that may be
CC regulated by a compound of the invention.
XX
SQ Sequence 736 AA;

```
  Query Match             98.0%;  Score 3705.5;  DB 7;  Length 736;
  Best Local Similarity   98.0%;  Pred. No. 1.3e-300;
  Matches  721;  Conservative    0;  Mismatches   10;  Indels    5;  Gaps    1;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQS-----PHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 115
              ||||||||||||||||||      |||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 120

Qy        116 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 175
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 180

Qy        176 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 235
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db        181 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 240

Qy        236 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 295

Db        241 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 300

Qy        296 VVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWR 355

Db        301 VVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDWR 360

Qy        356 IAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRL 415

Db        361 IAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRL 420

Qy        416 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 475

Db        421 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 480

Qy        476 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 535

Db        481 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 540

Qy        536 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 595

Db        541 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 600

Qy        596 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 655

Db        601 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 660

Qy        656 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 715

Db        661 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 720

Qy        716 VSSTSFPTPYTSSSSC 731

Db        721 VSSTSFPTPYTSSSSC 736
```

RESULT 6
ADU48495
ID ADU48495 standard; protein; 736 AA.
XX
AC ADU48495;
XX
DT 27-JAN-2005 (first entry)
XX
DE Protein of drug-resistant marker related human KCNN3 gene.
XX
KW cancer; cytostatic; neoplasm; antisense; multidrug-resistance;
KW tumor marker; microarray; biochip; KCNN3.
XX
OS Homo sapiens.
XX
PN JP2004313167-A.
XX
PD 11-NOV-2004.
XX
PF 23-JUL-2003; 2003JP-00200410.
XX
PR 24-FEB-2003; 2003JP-00045826.
XX
PA (INAZ/) INAZAWA J.
XX
DR WPI; 2004-806987/80.
DR N-PSDB; ADU48494.
XX
PT Novel drug-resistant marker comprising polynucleotide complementary to
PT nucleotides of PDZK1, MCL1 or KCNN3 gene, or antibody that recognizes
PT PDZK1, MCL1 or KCNN3, useful as probe for detecting drug resistance of
PT cancer.
XX
PS Disclosure; SEQ ID NO 10; 81pp; Japanese.
XX
CC The invention relates to a novel drug-resistant marker. The marker
CC comprises a polynucleotide that is complementary to 15 or more
CC nucleotides of the PDZK1, MCL1, KCNN3, MGC4365, FLJ22530, IRTA2,
CC FLJ23221, S100A6 and SPAP1 gene, or an antibody that recognises PDZK1,
CC MCL1, KCNN3, MGC4365, FLJ22530, IRTA2, FLJ23221, S100A6 and SPAP1. The
CC invention further comprises: a DNA microarray obtained by arranging
CC polynucleotides of the marker on a substrate; a protein chip obtained by
CC arranging antibodies of the marker on a substrate; a method for screening
CC a substance that suppresses the expression of genes as mentioned for the
CC marker; an antisense nucleotide that suppresses the expression of genes
CC as mentioned for the marker in cancer; and a double stranded RNA that
CC suppresses the expression of genes as mentioned for the marker in cancer.
CC The antisense nucleotide and double stranded RNA have cytostatic
CC activity. The drug-resistant marker is useful as a probe or primer for
CC detecting the drug resistance of a solid or non-solid cancer. The drug-
CC resistant marker, DNA microarray or protein chip is useful for detecting
CC drug resistance which involves contacting the drug-resistant marker, DNA
CC microarray or protein chip with biological sample e.g. RNA sample of a
CC subject, measuring drug resistance marker, which is utilized as an index,
CC and evaluating drug resistance based on the obtained measurement. The
CC step of evaluation involves comparing the drug resistance measurement
CC obtained from a test and control sample. The antisense nucleotide or
CC double stranded RNA is useful for suppressing the expression of a drug
CC resistant gene. This sequence represents the protein of the human KCNN3
CC gene used in the creation of a drug-resistant marker of the invention.
XX
SQ Sequence 736 AA;

Query Match 98.0%; Score 3705.5; DB 8; Length 736;
Best Local Similarity 98.0%; Pred. No. 1.3e-300;
Matches 721; Conservative 0; Mismatches 10; Indels 5; Gaps 1;

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Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60

Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQS-----PHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 115

Db         61 PQPPQLQQQQQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 120

Qy        116 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 175

Db        121 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 180

Qy        176 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 235

Db        181 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 240

Qy        236 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 295

Db        241 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 300

Qy        296 VVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWR 355

Db        301 VVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDWR 360

Qy        356 IAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRL 415

Db        361 IAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRL 420

Qy        416 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 475

Db        421 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 480

Qy        476 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 535

Db        481 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 540

Qy        536 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 595

Db        541 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 600
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Qy        596 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 655
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 660

Qy        656 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 715
              .||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 720

Qy        716 VSSTSFPTPYTSSSSC 731
              ||||||||||||||||
Db        721 VSSTSFPTPYTSSSSC 736


RESULT 7
AEF80134
ID   AEF80134 standard; protein; 735 AA.
XX
AC   AEF80134;
XX
DT   06-APR-2006  (first entry)
XX
DE   Cancer-associated polypeptide sequence hP27-009.2 SEQ ID NO:30.
XX
KW   DNA microarray; cancer; neoplasm; cytostatic; diagnosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 362
FT                   /note= "Encoded by ATG"
FT   Misc-difference 716
FT                   /note= "Encoded by ACC"
XX
PN   US2006024677-A1.
XX
PD   02-FEB-2006.
XX
PF   20-JUL-2004; 2004US-00895974.
XX
PR   20-JUL-2004; 2004US-00895974.
XX
PA   (MORR/) MORRIS D W.
PA   (MALA/) MALANDRO M S.
PA   (LAIA/) LAI A.
PA   (TSEC/) TSE C.
PA   (FATT/) FATTAEY A.
XX
PI   Morris DW,  Malandro MS,  Lai A,  Tse C,  Fattaey A;
XX
DR   WPI; 2006-135411/14.
DR   N-PSDB; AEF80133, AEF80130.
XX
PT   Nucleic acid array for detecting cancer-associated (CA) nucleic acid,
PT   consists of nucleic acid probes having specific contiguous nucleotides of
PT   CA polynucleotide.
XX
PS   Disclosure; SEQ ID NO 30; 264pp; English.
XX
CC   The invention relates to a novel nucleic acid array (I) for detecting a
CC   cancer-associated (CA) nucleic acid, consisting of 2 or more nucleic acid
CC   probes each comprising 10 or more contiguous nucleotides of 2 or more CA
CC   polynucleotide sequences, or its complement. The invention has cytostatic
CC   activity. The nucleic acid array is useful for detecting a CA nucleic
CC   acid. An antibody of the invention is useful for detecting the presence
CC   or absence of cancer cells. A method of the invention is useful for
CC   inhibiting expression of a CA gene in a cell, or for treating cancer. The
CC   CA polynucleotide or polypeptide as mentioned in (I) or (II) is useful as
CC   vaccine for treating cancer e.g. lymphoma or leukemia. The present
CC   sequence represents a human CA polypeptide (CAP) of the invention.
XX
SQ   Sequence 735 AA;

  Query Match             97.8%;  Score 3699;  DB 10;  Length 735;
  Best Local Similarity   98.0%;  Pred. No. 4.5e-300;
  Matches  720;  Conservative    0;  Mismatches   11;  Indels    4;  Gaps    1;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQS----PHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNS 116
              |||||||||||||||||||    ||||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNS 120

Qy        117 TAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMS 176
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 TAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMS 180

Qy        177 SCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHH 236
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHH 240

Qy        237 PNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIV 296
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 PNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIV 300

Qy        297 VMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRI 356
              |||||||||||||||||||||| |||||||||||||||| |||||||| ||||||
Db        301 VMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDWRI 360

Qy        357 AMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLY 416
              | |||||||||||||   | |||||||| ||||||||||||||||||||||||||||||
Db        361 ANTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRLY 420

Qy        417 LIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAW 476
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 LIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAW 480

Qy        477 TVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTA 536
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 TVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTA 540

Qy        537 LVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAK 596
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 LVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAK 600

Qy        597 VRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQI 656
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 VRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQI 660

Qy        657 GSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGV 716
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 GSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGV 720

Qy        717 SSTSFPTPYTSSSSC 731
              |||||||||||||||
Db        721 SSTSFPTPYTSSSSC 735


RESULT 8
AAW63717
ID   AAW63717 standard; protein; 736 AA.
XX
AC   AAW63717;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Human hSK3 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 3; hSK3;
KW   human; potassium ion flux.
XX
OS   Homo sapiens.
XX
PN   WO9811139-A1.
XX
```

```
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35473.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 126-128; 151pp; English.
XX
CC   This sequence is the human small conductance calcium-activated potassium
CC   channel protein 3 (hSK3) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 736 AA;

  Query Match             97.8%;  Score 3697.5;  DB 2;  Length 736;
  Best Local Similarity   97.8%;  Pred. No. 6e-300;
  Matches  720;  Conservative    0;  Mismatches   11;  Indels    5;  Gaps    1;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||| |||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQS-----PHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 115
              ||||||||||||||||||      |||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSN 120

Qy        116 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAM 175
              ||||||||||||||||||||||||||||||||||||||||||||||||||| |||||
Db        121 STAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPSTEIAM 180

Qy        176 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 235
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLH 240

Qy        236 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 295
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 HPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGI 300

Qy        296 VVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWR 355
              |||||||||||||||||||||| |||||||||||||||| |||||||| |||||
Db        301 VVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDWR 360

Qy        356 IAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRL 415
              ||||||||||||||||   | ||||||||| ||||||||||||||||||||||||||||
Db        361 IAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRL 420

Qy        416 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 475
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 YLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAA 480

Qy        476 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 535
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 WTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCT 540

Qy        536 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 595
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 ALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHA 600

Qy        596 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 655
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 KVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQ 660

Qy        656 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 715
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 IGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIG 720

Qy        716 VSSTSFPTPYTSSSSC 731
              ||||||||||||||||
Db        721 VSSTSFPTPYTSSSSC 736


RESULT 9
ADV70180
ID   ADV70180 standard; protein; 731 AA.
XX
AC   ADV70180;
XX
DT   10-MAR-2005  (first entry)
XX
DE   Tumor-associated antigenic target polypeptide TAT425.
XX
KW   cytostatic; diagnosis; therapy; tumor;
KW   tumor-associated antigenic target polypeptide; TAT.
XX
OS   Homo sapiens.
XX
PN   WO2004112829-A2.
XX
PD   29-DEC-2004.
XX
PF   21-MAY-2004; 2004WO-US016121.
XX
PR   23-MAY-2003; 2003US-0473238P.
PR   27-FEB-2004; 2004US-0548299P.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Phillips H;
XX
DR   WPI; 2005-048766/05.
DR   N-PSDB; ADV70085.
XX
PT   Treating a mammal having a tumor of glial origin comprising cells that
PT   express a type A or B glial tumor antigen by contacting the cells with a
PT   composition comprising first and second binding agents.
XX
PS   Disclosure; SEQ ID NO 104; 374pp; English.
XX
CC   The invention describes a method of treating a mammal having a tumor of
CC   glial origin comprising cells that express a type A or B glial tumor
CC   antigen comprises contacting the cells with a composition of: a first
CC   binding agent comprising a first antibody, oligopeptide or organic
CC   molecule that binds to a type A or B glial tumor antigen; and a second
CC   binding agent comprising a second antibody, oligopeptide or organic
CC   molecule that binds to a type B or A glial tumor antigen. Also described
CC   is a method of determining the presence of a type A or B glial tumor in a
CC   mammal. The method is useful in treating a mammal having a tumor of glial
CC   origin comprising cells that express a type A or B glial tumor antigen.
CC   This sequence represents a human tumor-associated antigenic target
CC   polypeptide.
```

```
XX
SQ   Sequence 731 AA;

  Query Match             97.8%;  Score 3697;  DB 9;  Length 731;
  Best Local Similarity   98.1%;  Pred. No. 6.5e-300;
  Matches  717;  Conservative    0;  Mismatches   14;  Indels    0;  Gaps    0;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120
              |||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120

Qy        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180

Qy        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240

Qy        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300
              |||||||| |||||||||||||||||||||||| |||||||||||||||||||||||||||
Db        241 HNHQHAGTAASSTTFPKANKRKNQNIGYKLGHRRAPFEKRKRLSDYALIFGMFGIVVMVI 300

Qy        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360
              |||||||||||||||||||| |||||||||||||||||  ||||||| ||||||||||||
Db        301 ETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREAQLFVIDNGADDWRIAMTY 360

Qy        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420
              |||||||||||    | |||||||| ||||||||||||||||||||||||||||||||||
Db        361 ERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420

Qy        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRA 480

Qy        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540

Qy        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600

Qy        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660

Qy        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720

Qy        721 FPTPYTSSSSC 731
              ||||||||||| 
Db        721 FPTPYTSSSSC 731


RESULT 10
AAW96312
ID   AAW96312 standard; protein; 731 AA.
XX
AC   AAW96312;
XX
DT   28-JUN-1999  (first entry)
XX
DE   Human small conductance calcium activated potassium channel protein.
XX
KW   Human small conductance calcium activated potassium channel; hKCa3/KCNN3;
KW   bipolar disease; schizophrenia; treatment; diagnosis; detection;
KW   transgenic animal; gene therapy; neuropsychiatric disorder;
KW   neurological disorder; neuromuscular disorder; immunological disorder.
XX
OS   Homo sapiens.
XX
PN   WO9903889-A1.
XX
PD   28-JAN-1999.
XX
PF   14-JUL-1998;   98WO-US014902.
XX
PR   15-JUL-1997;   97US-0052556P.
PR   08-JAN-1998;   98US-0070741P.
XX
PA   (REGC ) UNIV CALIFORNIA.
XX
PI   Chandy KG,  Gutman G,  Kalman K,  Fantino E,  Gargus JJ;
XX
DR   WPI; 1999-132165/11.
DR   N-PSDB; AAX08414.
XX
PT   New human small conductance calcium activated potassium channel-3 -
PT   useful for diagnosis, treatment and prevention of particularly
PT   schizophrenia and bipolar disorders.
XX
PS   Claim 1; Fig 5; 95pp; English.
XX
CC   Disorders associated with a dysfunctional or altered small conductance
CC   calcium-activated potassium channel-3 (hKCa3/KCNN3) comprise
CC   neuropsychiatric, neurological, neuromuscular and immunological
CC   disorders, specifically bipolar disease and schizophrenia. Transgenic
CC   animals comprising the hKCa3/KCNN3 gene as a transgene in their somatic
CC   and germ cell lines can be used as models for studying these conditions
CC   and their treatments. Antibodies (Ab) directed against the hKCa3/KCNN3
CC   polypeptide or conservative variants of the polypeptide can be used to
CC   detect those at risk from these disorders and also in therapy against
CC   such disorders. Use of the wild type gene in gene therapy to treat these
CC   disorders is also contemplated
XX
SQ   Sequence 731 AA;

  Query Match             97.6%;  Score 3692;  DB 2;  Length 731;
  Best Local Similarity   97.9%;  Pred. No. 1.7e-299;
  Matches  716;  Conservative    0;  Mismatches   15;  Indels    0;  Gaps    0;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120
              |||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||
Db         61 PQPPQLQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNSTAIL 120

Qy        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMSSCKY 180

Qy        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHHPNAT 240

Qy        241 HNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVI 300
              |||||||| |||||||||||||||||||||||| |||||| |||||||||||||||||||||
Db        241 HNHQHAGTAASSTTFPKANKRKNQNIGYNLGHRRAPFEKRKRLSDYALIFGMFGIVVMVI 300

Qy        301 ETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTY 360
              |||||||||||||||||||| |||||||||||||||||  ||||||| ||||||||||||
Db        301 ETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREAQLFVIDNGADDWRIAMTY 360

Qy        361 ERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420
              |||||||||||    | |||||||| ||||||||||||||||||||||||||||||||||
Db        361 ERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLRLYLIAR 420

Qy        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRA 480

Qy        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540

Qy        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600

Qy        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660

Qy        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 SKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTS 720

Qy        721 FPTPYTSSSSC 731
                ||||||||||||
Db        721 FPTPYTSSSSC 731


RESULT 11
AAW63715
ID   AAW63715 standard; protein; 732 AA.
XX
AC   AAW63715;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Rat rSK3 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 3; rSK3;
KW   rat; potassium ion flux.
XX
OS   Rattus sp.
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35472.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 121-123; 151pp; English.
XX
CC   This sequence is the rat small conductance calcium-activated potassium
CC   channel protein 3 (rSK3) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 732 AA;

  Query Match             93.8%;  Score 3548.5;  DB 2;  Length 732;
  Best Local Similarity   93.6%;  Pred. No. 1.8e-287;
  Matches  690;  Conservative   11;  Mismatches   25;  Indels   11;  Gaps    2;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||:|||||||||||||||||||      |||||| ||| | || |||| || ||
Db          1 MDTSGHFHESGVGDLDEDPKCPCPSSGDE-----QQQQQQPPPPSAPPAVPQQPPGPLLQ 55

Qy         61 PQPPQLQQQQQQQQQQQQQSP------HPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSS 114
              ||||||||||||||||||        ||| |||||||| ||||||||||||||||| |:
Db         56 PQPPQLQQQQQQQQQQQQQQQQQQQAPLHPLPQLAQLQSQVVHPGLLHSSPTAFRAPNSA 115

Qy        115 NSTAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIA 174
              ||||||||||||||||||||:|||||||||||||||||||||:|||||||||||||||||
Db        116 NSTAILHPSSRQGSQLNLNDHLVGHSPSSTATSGPGGGSRHRQASPVVHRRDSNPFTEIA 175

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLL 234
              |||||||||||||||||||||||||||| ||||||||||||||:|||||||||||||||
Db        176 MSSCKYSGGVMKPLSRLSASRRNLIEAEPEGQPLQLFSPSNPPEIIISSREDNHAHQTLL 235

Qy        235 HHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 294
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Db        236 HHPNATHNHQHAGTTAGSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 295

Qy        295 IVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDW 354
              |||||||||||||||||||||||||||| |||||||||||||||| |||||||| ||||
Db        296 IVVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDW 355

Qy        355 RIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLR 414
              |||||||||||||||||   | |||||||| ||||||||||||||||||||||||||||
Db        356 RIAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLR 415

Qy        415 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIA 474
              ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||
Db        416 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLMFSISLWIIA 475

Qy        475 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 534
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        476 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 535

Qy        535 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 594
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        536 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 595

Qy        595 AKVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 654
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Db        596 AKVRKHQRKFLQAIHQLRGVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 655

Qy        655 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPI 714
              |||||||||||||||||||||||||||||||:| :||||:|||||:| | |||||
Db        656 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLTAFVEARGISVAVGTSHAPPSDSPI 715

Qy        715 GVSSTSFPTPYTSSSSC 731
              |:||||||||||||||
Db        716 GISSTSFPTPYTSSSSC 732


RESULT 12
AEF80129
ID   AEF80129 standard; protein; 695 AA.
XX
AC   AEF80129;
XX
DT   06-APR-2006  (first entry)
XX
```

```
DE   Cancer-associated polypeptide mP27-009.1 SEQ ID NO:25.
XX
KW   DNA microarray; cancer; neoplasm; cytostatic; diagnosis.
XX
OS   Mus sp.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 98
FT                   /note= "Encoded by CAT"
FT   Misc-difference 176
FT                   /note= "Encoded by ATG"
FT   Misc-difference 339
FT                   /note= "Encoded by CAC"
FT   Misc-difference 359
FT                   /note= "Encoded by ATG"
FT   Misc-difference 426
FT                   /note= "Encoded by CAT"
FT   Misc-difference 437
FT                   /note= "Encoded by ACC"
FT   Misc-difference 461
FT                   /note= "Encoded by GCC"
FT   Misc-difference 486
FT                   /note= "Encoded by CAT"
FT   Misc-difference 499
FT                   /note= "Encoded by ATG"
XX
PN   US2006024677-A1.
XX
PD   02-FEB-2006.
XX
PF   20-JUL-2004; 2004US-00895974.
XX
PR   20-JUL-2004; 2004US-00895974.
XX
PA   (MORR/) MORRIS D W.
PA   (MALA/) MALANDRO M S.
PA   (LAIA/) LAI A.
PA   (TSEC/) TSE C.
PA   (FATT/) FATTAEY A.
XX
PI   Morris DW,  Malandro MS,  Lai A,  Tse C,  Fattaey A;
XX
DR   WPI; 2006-135411/14.
DR   N-PSDB; AEF80128, AEF80127.
XX
PT   Nucleic acid array for detecting cancer-associated (CA) nucleic acid,
PT   consists of nucleic acid probes having specific contiguous nucleotides of
PT   CA polynucleotide.
XX
PS   Claim 4; SEQ ID NO 25; 264pp; English.
XX
CC   The invention relates to a novel nucleic acid array (I) for detecting a
CC   cancer-associated (CA) nucleic acid, consisting of 2 or more nucleic acid
CC   probes each comprising 10 or more contiguous nucleotides of 2 or more CA
CC   polynucleotide sequences, or its complement. The invention has cytostatic
CC   activity. The nucleic acid array is useful for detecting a CA nucleic
CC   acid. An antibody of the invention is useful for detecting the presence
CC   or absence of cancer cells. A method of the invention is useful for
CC   inhibiting expression of a CA gene in a cell, or for treating cancer. The
CC   CA polynucleotide or polypeptide as mentioned in (I) or (II) is useful as
CC   vaccine for treating cancer e.g. lymphoma or leukemia. The present
CC   sequence represents a murine CA polypeptide (CAP) of the invention.
XX
SQ   Sequence 695 AA;

  Query Match             87.1%;  Score 3296;  DB 10;  Length 695;
  Best Local Similarity   88.2%;  Pred. No. 2.2e-266;
  Matches  650;  Conservative   11;  Mismatches   28;  Indels   48;  Gaps    4;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              |||||||||||||||||||||||||||||     |||||| ||||| || |||| || ||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDE-----QQQQQQPPPPPAPPAVPQQPPGPLLQ 55

Qy         61 PQPP-----QLQQQQQQQQQQQQQQSP-HPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSS 114
              ||||     | ||||||| ||||||:| ||| |||||||| |:|||||||||||||| |:
Db         56 PQPPQPQQQQSQQQQQQQSQQQQQQAPLHPLPQLAQLQSQLVNPGLLHSSPTAFRAPTSA 115

Qy        115 NSTAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIA 174
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        116 NSTAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIA 175

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLL 234
              |||||||||||||||||||||||||||| |||||||||||||||:|||||||||||||||
Db        176 NSSCKYSGGVMKPLSRLSASRRNLIEAEPEGQPLQLFSPSNPPEIIISSREDNHAHQTLL 235

Qy        235 HHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 294
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Db        236 HHPNATHNHQHAGTTAGSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 295

Qy        295 IVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDW 354
              |||||||||||||||||||||||||| |||||:||||||||| || |||||||| ||||
Db        296 IVVMVIETELSWGLYSKDSMFSLALKCLISLSTVILLGLIIAYMTREVQLFVIDNGADDW 355

Qy        355 RIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLR 414
              ||| |||||||||||||    | |||||||| ||||||||||||||||||||||||||||
Db        356 RIANTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLR 415

Qy        415 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIA 474
              ||||||||||:||||||||||||||||||||||||||||||||||||||||||||||||||
Db        416 LYLIARVMLLNSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIA 475

Qy        475 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 534
              |||||||||| |||||||||||| ||||||||||||||||||||||||||||||||||||
Db        476 AWTVRVCERYMDQQDVTSNFLGANWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 535

Qy        535 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 594
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        536 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 595

Qy        595 AKVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 654
              |                                   ||||||||||||||||||||||
Db        596 A-----------------------------------KMQNVMYDLITELNDRSEDLEK 618

Qy        655 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPI 714
              |||||||||||||||||||||||||||||||:| :||||:||||||:| | |||||
Db        619 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLTAFVEARGISVAVGTSHAPPSDSPI 678

Qy        715 GVSSTSFPTPYTSSSSC 731
              |:||||||||||||||
Db        679 GISSTSFPTPYTSSSSC 695


RESULT 13
AAW63708
ID   AAW63708 standard; protein; 557 AA.
XX
AC   AAW63708;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Truncated human hSK3 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 3; hSK3;
KW   human; potassium ion flux.
XX
OS   Homo sapiens.
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
```

```
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35458.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 108-110; 151pp; English.
XX
CC   This sequence is the human small conductance calcium-activated potassium
CC   channel protein 3 (hSK3) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 557 AA;

  Query Match             73.9%;  Score 2794;  DB 2;  Length 557;
  Best Local Similarity   98.6%;  Pred. No. 1.7e-224;
  Matches  549;  Conservative    0;  Mismatches    8;  Indels    0;  Gaps    0;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLL 234
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Db          1 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLL 60

Qy        235 HHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 294
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 HHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 120

Qy        295 IVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDW 354
              ||||||||||||||||||||||||| |||||||||||||||| |||||||| ||||
Db        121 IVVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDW 180

Qy        355 RIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLR 414
              |||||||||||||||||   | ||||||||| ||||||||||||||||||||||||||||
Db        181 RIAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLR 240

Qy        415 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIA 474
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIA 300

Qy        475 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 534
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 360

Qy        535 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 594
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 420

Qy        595 AKVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 654
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 AKVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 480

Qy        655 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPI 714
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPI 540

Qy        715 GVSSTSFPTPYTSSSSC 731
              |||||||||||||||||
Db        541 GVSSTSFPTPYTSSSSC 557


RESULT 14
AAW63703
ID   AAW63703 standard; protein; 553 AA.
XX
AC   AAW63703;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Truncated rat rSK3 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 3; rSK3;
KW   rat; potassium ion flux.
XX
OS   Rattus sp.
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35447.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 96-97; 151pp; English.
XX
CC   This sequence is the rat small conductance calcium-activated potassium
CC   channel protein 3 (rSK3) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 553 AA;

  Query Match             71.4%;  Score 2701;  DB 2;  Length 553;
  Best Local Similarity   96.2%;  Pred. No. 9.9e-217;
  Matches  527;  Conservative    7;  Mismatches   14;  Indels    0;  Gaps    0;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLL 234
              |||||||||||||||||||||||||| |||||||||||||||:|||||||||||||||
Db          1 MSSCKYSGGVMKPLSRLSASRRNLIEAEPEGQPLQLFSPSNPPEIIISSREDNHAHQTLL 60

Qy        235 HHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 294
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 HHPNATHNHQHAGTTAGSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFG 120
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Qy        295 IVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDW 354
              |||||||||||||||||||||||||| |||||||||||||||||  |||||||| ||||
Db        121 IVVMVIETELSWGLYSKDSMFSLALKCLISLSTIILLGLIIAYHTREVQLFVIDNGADDW 180

Qy        355 RIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLR 414
              |||||||||||||||||    | ||||||||| ||||||||||||||||||||||||||
Db        181 RIAMTYERILYISLEMLVCAIHPIPGEYKFFWTARLAFSYTPSRAEADVDIILSIPMFLR 240

Qy        415 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIA 474
              ||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||
Db        241 LYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLMFSISLWIIA 300

Qy        475 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 534
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 AWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGC 360

Qy        535 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 594
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDH 420

Qy        595 AKVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 654
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Db        421 AKVRKHQRKFLQAIHQLRGVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEK 480

Qy        655 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPI 714
              ||||||||||||||||||||||||||||||:| :||||:||||||:| | |||||
Db        481 QIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLTAFVEARGISVAVGTSHAPPSDSPI 540

Qy        715 GVSSTSFP 722
              |:||||||
Db        541 GISSTSFP 548
```

RESULT 15
ABB76164
ID ABB76164 standard; protein; 847 AA.
XX
AC ABB76164;
XX
DT 22-JUL-2002 (first entry)
XX
DE Human potassium channel 52906.
XX
KW Potassium channel; ion transport; 52906; nootropic; anticonvulsant;
KW neuroprotective; antiparkinsonian; hypotensive; neuroleptic;
KW antidepressant; antimanic; tranquillizer; anorectic; antimigraine;
KW antiarteriosclerotic; vasotropic; vulnerary; antiarrhythmic; cardiant;
KW antiinflammatory; cytostatic; osteopathic; hepatotropic; antidiabetic;
KW immunosuppressive; antiarthritic; antirheumatic; antipsoriatic;
KW antithyroid; antiulcer; dermatological; antianaemic; antiasthmatic;
KW antiallergic; ophthalmological; immunomodulator; analgesic; virucide;
KW human; gene therapy.
XX
OS Homo sapiens.
XX
FH Key   Location/Qualifiers
FT Domain   1. .401
FT   /note= "Cytoplasmic domain 1"
FT Region   402. .662
FT   /note= "Transmembrane region"
FT Domain   402. .419
FT   /note= "Transmembrane domain 1"
FT Domain   420. .432
FT   /note= "Extracellular domain 1"
FT Domain   433. .456
FT   /note= "Transmembrane domain 2"
FT Domain   457. .481
FT   /note= "Cytoplasmic domain 2"
FT Domain   472. .661
FT   /note= "Ion transport protein domain"
FT Domain   482. .498
FT   /note= "Transmembrane domain 3"
FT Domain   499. .523
FT   /note= "Extracellular domain 2"
FT Domain   524. .543
FT   /note= "Transmembrane domain 4"
FT Domain   544. .572
FT   /note= "Cytoplasmic domain 3"
FT Domain   573. .597
FT   /note= "Transmembrane domain 5"
FT Domain   598. .640
FT   /note= "Extracellular domain 3"
FT Domain   616. .639
FT   /note= "Pore-Loop domain"
FT Domain   641. .662
FT   /note= "Transmembrane domain 6"
FT Domain   663. .847
FT   /note= "Cytoplasmic domain 4"
FT Region   719. .791
FT   /note= "predicted coiled-coil"
XX
PN WO200194390-A2.
XX
PD 13-DEC-2001.
XX
PF 06-JUN-2001; 2001WO-US018340.
XX
PR 06-JUN-2000; 2000US-0209845P.
XX
PA (MILL-) MILLENNIUM PHARM INC.
XX
PI Curtis RAJ;
XX
DR WPI; 2002-404361/43.
DR N-PSDB; ABL57036.
XX
PT New potassium channel family member polypeptide and polynucleotide,
PT useful for diagnosing, treating viral diseases, neurological, cardiac,
PT cellular proliferative or differentiative, bone, immune, liver and
PT metabolic disorders.
XX
PS Claim 8; Page 132; 158pp; English.
XX
CC The present sequence is the protein sequence of human 52906, a novel
CC potassium channel family member. Human 52906 contains an ion transport
CC protein domain, a core membrane region including 6 transmembrane domains
CC and a pore-loop domain. It is a human homologue of rat SK2, a calcium
CC activated potassium channel. 52906 mRNA was detected in brain, prostate
CC tumour and heart samples. The invention provides potassium channel 52906,
CC 33408 and 12189 nucleic acids and proteins, as well as antisense nucleic
CC acid molecules, recombinant expression vectors, host cells, transgenic
CC animals, fusion proteins, antigenic peptides and antibodies. Also claimed
CC are: a method for detecting the presence of a 52906, 33408 or 12189
CC nucleic acid; a method for modulating the activity of a 52906, 33408 or
CC 12189 polypeptide using a compound that binds the polypeptide; a method
CC for identifying a compound which modulates the activity of the
CC polypeptide; a method of treating or preventing an ion flux-related
CC disorder using an agent that modulates the activity or expression of a
CC 52906 or 12189 polypeptide or nucleic acid, especially a peptide,
CC phosphopeptide, small molecule, antibody, antisense molecule, ribozyme, a
CC triple helix molecule, or a 52906 or 12189 nucleic acid. The ion flux-
CC related disorders include: potassium channel associated disorders, such
CC as neurological disorders and central nervous system disorders such as
CC cognitive and neurodegenerative disorders e.g. Alzheimer's disease,
CC Parkinson's disease, senile dementia, Huntington's disease, Gilles de la
CC Tourette's syndrome, multiple sclerosis, progressive supranuclear palsy,
CC epilepsy, Jacob-Creutzfeldt disease, autonomic function disorders such as
CC hypertension and sleep disorders, neuropsychiatric disorders such as
CC depression, schizophrenia, mania, anxiety disorders or phobic disorders,
CC learning or memory disorders, amnesia or age-related memory loss,
CC attention deficit disorder, obsessive-compulsive disorder, migraine or
CC obesity; cardiac-related disorders such as arteriosclerosis, ischaemia
CC reperfusion injury, restenosis, arterial inflammation, tachycardia,
CC congestive heart failure, myocardial infarction and arrhythmia. The
CC polypeptides and nucleic acids are also useful as diagnostic targets and

```
CC   therapeutic agents for: controlling cellular proliferative and/or
CC   differentiative disorders e.g. haematopoietic neoplastic disorders,
CC   carcinoma and sarcoma; disorders associated with bone metabolism such as
CC   osteoporosis, rickets, osteopenia, cirrhosis, hyperparathyroidism,
CC   idiopathic hypercalcaemia; immune disorders such as autoimmune disorders,
CC   diabetes mellitus, arthritis, including rheumatoid arthritis,
CC   osteoarthritis and psoriatic arthritis, multiple sclerosis, myasthenia
CC   gravis, autoimmune thyroiditis, ulcerative colitis, psoriasis, Sjogren's
CC   syndrome, dermatitis, Crohn's disease, asthma, allergic asthma,
CC   conjunctivitis, aplastic anaemia, Grave's disease, chronic active
CC   hepatitis, autoimmune uveitis, scleroderma; liver disorders including
CC   storage disorders such as Gaucher's disease, glycogen storage disease,
CC   haemochromatosis and peroxisomal disorders; viral diseases; pain; or
CC   metabolic disorders such as obesity, anorexia nervosa, cachexia, lipid
CC   disorders and diabetes
XX
SQ   Sequence 847 AA;

  Query Match             58.7%;  Score 2219.5;  DB 5;  Length 847;
  Best Local Similarity   56.5%;  Pred. No. 3.7e-176;
  Matches  489;  Conservative   65;  Mismatches  142;  Indels  169;  Gaps   16;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPP-------------PAS 47
              :|::|    :|:|          |||          |||: | |             | |
Db         15 LDSTG----AGMG----------PSS---------HQQQESPLPTITHCAGCTTAWSPCS 51

Qy         48 PAAP--------QQPLGPSLQPQPPQLQQQQQQQQQQQQQQQSPHPLSQLAQLQSQPVHPG 99
                :|        |:   |  || ||        |||||  |  | |    | |      ||
Db         52 FNSPDMETPLQFQRGFFPE-QPPPPPRSSHLHCQQQQQSQDKPCP--PFAPLPHPHHHPH 108

Qy        100 LLHSSPT---------------------------------------AFR----APPSSNST 117
              | |  |                                        |||    :| | :|
Db        109 LAHQQPASGGSSPCLRCNSCASSGAPAAGAGDNLSLLLRTSSPGGAFRTRTSSPLSGSSC 168

Qy        118 AILHPSSRQGSQLNLND-----------------------------HLLGHSPSSTAT 146
              |||:|||||:::                                 | |  : | | :
Db        169 CCCCCSSRRGSQLNVSELTPSSHASALRQQYAQQSAQQSASASQYHQCHSLQPAASPTGS 228

Qy        147 -----SGPGGGSRHRQASPLVH-------RRDSNPFTEIAMSSCKYSGGVMKPLSRLSAS 194
                  |||      |    | |       ||:|||||||||||:|:||||:||| ||||
Db        229 LGSLGSGPPLSHHHHHPHPAHHQHHQPQARRESNPFTEIAMSSCRYNGGVMRPLSNLSAS 288

Qy        195 RRNLIEAETEGQPLQ----------LFSP----------SNPPEIVISSREDNHAHQTL 233
              |||| | ::| ||||           ||          |: ||||:|  | |:::
Db        289 RRNLHEMDSEAQPLQPPASVGGGGGASSPSAAAAAAAAVSSSAPEIVVSKPEHNNSNNLA 348

Qy        234 LHHPNATHNHQHAGTTA----------SSTTFPKANKRKNQNIGYKLGHRRALFEKRKRL 283
              |:          |:|          |::  |::|:|||||||||||||||||||||||
Db        349 LYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKKNQNIGYKLGHRRALFEKRKRL 402

Qy        284 SDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQ 343
              |||||||||||||||||||||||| | | |::|||||| |||||||||||| || | :|
Db        403 SDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCLISLSTIILLGLIIVYHAREIQ 462

Qy        344 LFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADV 403
              ||::|| |||||||||||| :| ||:||    | ||| | | | |||||| ||    |||
Db        463 LFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNYTFTWTARLAFSYAPSTTTADV 522

Qy        404 DIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVL 463
              |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Db        523 DIILSIPMFLRLYLIARVMLLHSKLFTDTSSRSIGALNKINFNTRFVMKTLMTICPGTVL 582

Qy        464 LVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGV 523
              |||||||||||||||| ||||||||||||||||||||||||||||||:|||||||
Db        583 LVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPNTYCGKGV 642

Qy        524 CLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIY 583
              |||||||||||||||||||||||||||||||||||||||||:|||||||||||||||||
Db        643 CLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRVKNAAANVLRETWLIY 702

Qy        584 KHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLIT 643
              |:|||:|||||||||||||||||||||||||||||:|||||||:| ||:|||:|:
Db        703 KNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLNDQANTLVDLAKTQNIMYDMIS 762

Qy        644 ELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVG 703
              :||:|||| ||:| :||:||| |  | ::|| ||: |:|||||:  : | :|:    |
Db        763 DLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIRQQQRDFIEAQMESYDKHVTYN 822

Qy        704 TTHTPISDSPIGVSSTSFPTPYTSS 728
                    :  |      |||: ||   ||
Db        823 AERSRSSSRRRRSSSTAPPTSSESS 847


RESULT 16
AAW63707
ID   AAW63707 standard; protein; 579 AA.
XX
AC   AAW63707;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Human hSK2 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 2; hSK2;
KW   human; potassium ion flux.
XX
OS   Homo sapiens.
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35457.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 106-108; 151pp; English.
XX
CC   This sequence is the human small conductance calcium-activated potassium
CC   channel protein 2 (hSK2) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 579 AA;

  Query Match             54.7%;  Score 2070.5;  DB 2;  Length 579;
  Best Local Similarity   71.8%;  Pred. No. 6.2e-164;
  Matches  420;  Conservative   48;  Mismatches   80;  Indels   37;  Gaps    4;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ----------LFSP---------- 213
              ||||:|:||||:||| |||||||| | ::| ||||           ||
```

```
Db          1 MSSCRYNGGVMRPLSNLSASRRNLHEMDSEAQPLQPPASVGGGGGASSPSAAAAAAAAVS 60

Qy        214 SNPPEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA----------SSTTFPKANKRKN 263
              |: ||||:|  | |:::  |:          |:|           |::  |::|:||
Db         61 SSAPEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKKN 114

Qy        264 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRI 323
              ||||||||||||||||||||||||||||||||||||||||||| | | |::|||||| |
Db        115 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCLI 174

Qy        324 SLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYK 383
              |||||||||||| || | :|||::|| |||||||||||| :| ||:||   | ||| |
Db        175 SLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNYT 234

Qy        384 FFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
              | | ||||||| ||   ||||||||||||||||||||||||||||||||||||||||||
Db        235 FTWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 294

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
              |||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db        295 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLISI 354

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              ||||||||||||:||||||||||||||||||||||||||||||||||||||||||||||
Db        355 TFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 414

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
              ||||:|||||||||||||||:|||:|||||||||||||||||||||||||||||||:|
Db        415 LTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLND 474

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              ||||||||:| ||:|||:|::||:|||| ||:| :||:||| |  | ::|| ||: |:||
Db        475 QANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIRQ 534

Qy        684 QQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
              ||:  : | :|:    |      :  |       |||: ||   ||
Db        535 QQRDFIEAQMESYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 579


RESULT 17
ABG61870
ID   ABG61870 standard; protein; 579 AA.
XX
AC   ABG61870;
XX
DT   15-AUG-2002  (first entry)
XX
DE   Prostate cancer-associated protein #71.
XX
KW   Prostate cancer; prostate tumour tissue; human; mammal; cytostatic.
XX
OS   Mammalia.
XX
PN   WO200230268-A2.
XX
PD   18-APR-2002.
XX
PF   12-OCT-2001; 2001WO-US032045.
XX
PR   13-OCT-2000; 2000US-00687576.
PR   08-DEC-2000; 2000US-00733288.
PR   08-DEC-2000; 2000US-00733742.
PR   24-JAN-2001; 2001US-0263957P.
PR   16-MAR-2001; 2001US-0276791P.
PR   16-MAR-2001; 2001US-0276888P.
PR   06-APR-2001; 2001US-0281922P.
PR   24-APR-2001; 2001US-0286214P.
PR   30-APR-2001; 2001US-00847046.
PR   04-MAY-2001; 2001US-0288589P.
XX
PA   (EOSB-) EOS BIOTECHNOLOGY INC.
XX
PI   Gish KC,  Mack DH,  Wilson KE,  Afar D,  Hevezi P;
XX
DR   WPI; 2002-471335/50.
DR   N-PSDB; ABK92185.
XX
PT   Detecting a prostate cancer-associated transcript in a cell in a patient,
PT   useful for diagnosing prostate cancer (PC) or screening modulators of PC,
PT   by determining if prostate cancer-associated genes are expressed in a
PT   prostate tissue.
XX
PS   Claim 27; Page 355; 436pp; English.
XX
CC   The present invention relates to methods of detecting a prostate cancer-
CC   associated transcript in a cell from a patient. The method comprises
CC   contacting a biological sample from the patient with prostate cancer-
CC   associated polynucleotides (designated PC genes) that selectively
CC   hybridise to a sequence that is at least 80% identical to them. The
CC   prostate cancer-associated polynucleotide sequences are differentially
CC   expressed in prostate tumour tissue or in prostate cancer and are derived
CC   from the tissues of various organisms such as humans or other mammals
CC   (e.g. mice, sheep and dogs). The methods of the invention are useful for
CC   diagnosing and treating prostate cancer in mammals. The prostate cancer-
CC   associated genes are useful for diagnosing or treating prostate cancer,
CC   as well as for identifying modulators of prostate cancer or agents that
CC   inhibit prostate cancer. The nucleic acid sequences are particularly
CC   useful in gene therapy, as a vaccine or in antisense applications.
CC   ABG61800-ABG61944 represent prostate cancer-associated proteins
XX
SQ   Sequence 579 AA;

  Query Match             54.7%;  Score 2070.5;  DB 5;  Length 579;
  Best Local Similarity   71.8%;  Pred. No. 6.2e-164;
  Matches  420;  Conservative   48;  Mismatches   80;  Indels   37;  Gaps    4;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ----------LFSP---------- 213
              ||||:|:||||:||| |||||||| | ::| ||||           ||
Db          1 MSSCRYNGGVMRPLSNLSASRRNLHEMDSEAQPLQPPASVGGGGGASSPSAAAAAAAAVS 60

Qy        214 SNPPEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA----------SSTTFPKANKRKN 263
              |: ||||:|  | |:::  |:          |:|           |::  |::|:||
Db         61 SSAPEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKKN 114

Qy        264 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRI 323
              ||||||||||||||||||||||||||||||||||||||||||| | | |::|||||| |
Db        115 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCLI 174

Qy        324 SLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYK 383
              |||||||||||| || | :|||::|| |||||||||||| :| ||:||   | ||| |
Db        175 SLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNYT 234

Qy        384 FFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
              | | ||||||| ||   ||||||||||||||||||||||||||||||||||||||||||
Db        235 FTWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 294

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
              |||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db        295 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLISI 354

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              ||||||||||||:||||||||||||||||||||||||||||||||||||||||||||||
Db        355 TFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 414

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
              ||||:|||||||||||||||:|||:|||||||||||||||||||||||||||||||:|
Db        415 LTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLND 474

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              ||||||||:| ||:|||:|::||:|||| ||:| :||:||| |  | ::|| ||: |:||
Db        475 QANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIRQ 534

Qy        684 QQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
              ||:  : | :|:    |      :  |       |||: ||   ||
Db        535 QQRDFIEAQMESYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 579
```

RESULT 18
ADN39278
ID ADN39278 standard; protein; 579 AA.
XX
AC ADN39278;
XX
DT 17-JUN-2004 (first entry)
XX
DE Cancer/angiogenesis/fibrosis-related polypeptide, SEQ ID NO:596.
XX
KW Human; differential expression; cancer; angiogenic disorder;
KW fibrotic disorder; psoriasis; ischaemia; heart disease; atherosclerosis;
KW inflammatory disease; autoimmune disease;
KW retinal neovascularistaion syndrome; scarring; uterine fibroid;
KW detection; diagnosis; prognosis; drug screening; drug targeting;
KW wound healing; contraception; cytostatic; cardiant; immunomodulatory;
KW vulnerary; gene therapy; vaccine.
XX
OS Homo sapiens.
XX
PN WO2003042661-A2.
XX
PD 22-MAY-2003.
XX
PF 13-NOV-2002; 2002WO-US036810.
XX
PR 13-NOV-2001; 2001US-0350666P.
PR 21-NOV-2001; 2001US-0332464P.
PR 29-NOV-2001; 2001US-0334393P.
PR 03-DEC-2001; 2001US-0335394P.
PR 14-DEC-2001; 2001US-0340376P.
PR 08-JAN-2002; 2002US-0347211P.
PR 10-JAN-2002; 2002US-0347349P.
PR 08-FEB-2002; 2002US-0355250P.
PR 13-FEB-2002; 2002US-0356714P.
PR 20-FEB-2002; 2002US-0359077P.
PR 29-MAR-2002; 2002US-0368809P.
PR 04-APR-2002; 2002US-0370110P.
PR 12-APR-2002; 2002US-0372246P.
PR 05-JUN-2002; 2002US-0386614P.
PR 16-JUL-2002; 2002US-0396839P.
PR 22-JUL-2002; 2002US-0397775P.
PR 22-JUL-2002; 2002US-0397845P.
PR 09-SEP-2002; 2002US-0409450P.
XX
PA (EOSB-) EOS BIOTECHNOLOGY INC.
XX
PI Afar D, Aziz N, Ginsburg WM, Gish KC, Glynne R, Hevezi PA;
PI Mack DH, Murray R, Watson SR, Wilson KE, Zlotnik A;
XX
DR WPI; 2003-468649/44.
DR N-PSDB; ADN39277.
XX
PT Determining the presence or absence of a pathological cell in a patient,
PT useful for diagnosing, prognosing or treating cancer, comprises detecting
PT a nucleic acid in a biological sample.
XX
PS Claim 12; SEQ ID NO 596; 1385pp; English.
XX
CC The invention relates to nucleic acids and proteins (ADN38683-ADN40064)
CC whose expression is upregulated or downregulated in specific cancers or
CC other diseases such as angiogenic or fibrotic disorders, and to methods
CC of determining the presence or absence of a pathological cell in a
CC patient by detecting a nucleic acid at least 80% identical to those of
CC the invention or by detecting a polypeptide of the invention. The
CC invention also relates to expression vectors and host cells comprising a
CC nucleic acid of the invention; antibodies which specifically bind a
CC polypeptide of the invention; use of such antibodies for drug targeting;
CC and methods of screening for modulators of activity or expression of the
CC polypeptides and nucleic acids. The nucleic acids, polypeptides,
CC antibodies and methods are useful for diagnosing, prognosing and treating
CC cancer and other conditions such as psoriasis, ischaemia, heart disease,
CC atherosclerosis, inflammatory diseases, autoimmune diseases, retinal
CC neovascularistaion syndromes, scarring and uterine fibroids. They may
CC also be useful in wound healing and in contraception. The present
CC sequence represents a polypeptide of the invention.
XX
SQ Sequence 579 AA;

Query Match 54.7%; Score 2070.5; DB 7; Length 579;
Best Local Similarity 71.8%; Pred. No. 6.2e-164;
Matches 420; Conservative 48; Mismatches 80; Indels 37; Gaps 4;

```
Qy      175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ----------LFSP---------- 213
            ||||:|:||||:||| |||||||| | ::| ||||           ||
Db        1 MSSCRYNGGVMRPLSNLSASRRNLHEMDSEAQPLQPPASVGGGGGASSPSAAAAAAAAVS 60

Qy      214 SNPPEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA----------SSTTFPKANKRKN 263
            |: ||||:|  | |::: |:          |:|           |::  |::|:||
Db       61 SSAPEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKKN 114

Qy      264 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRI 323
            ||||||||||||||||||||||||||||||||||||||||| | | |::|||||| |
Db      115 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCLI 174

Qy      324 SLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYK 383
            |||||||||||| || | :|||::|| |||||||||||| :| ||:|| . | ||| |
Db      175 SLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNYT 234

Qy      384 FFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
            | | ||||||| ||  ||||||||||||||||||||||||||||||||||||||||||||
Db      235 FTWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 294

Qy      444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
            |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db      295 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLISI 354

Qy      504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
            |||||||||||:||||||||||||||||||||||||||||||||||||||||||||||||
Db      355 TFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 414

Qy      564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
            ||||:|||||||||||||:|||:|||||||||||||||||||||||||||||||||:|
Db      415 LTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLND 474

Qy      624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
            ||||||||:| ||:|||:|::||:|||| ||:| :||:||| |  | ::|| ||: |:||
Db      475 QANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIRQ 534

Qy      684 QQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
            ||:  : | :|:     |       :  |       |||: ||   ||
Db      535 QQRDFIEAQMESYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 579
```

RESULT 19
ADN39614
ID ADN39614 standard; protein; 579 AA.
XX
AC ADN39614;
XX
DT 17-JUN-2004 (first entry)
XX
DE Cancer/angiogenesis/fibrosis-related polypeptide, SEQ ID NO:A214.
XX
KW Human; differential expression; cancer; angiogenic disorder;
KW fibrotic disorder; psoriasis; ischaemia; heart disease; atherosclerosis;
KW inflammatory disease; autoimmune disease;
KW retinal neovascularistaion syndrome; scarring; uterine fibroid;
KW detection; diagnosis; prognosis; drug screening; drug targeting;
KW wound healing; contraception; cytostatic; cardiant; immunomodulatory;
KW vulnerary; gene therapy; vaccine.
XX
OS Homo sapiens.
XX
PN WO2003042661-A2.

```
XX
PD   22-MAY-2003.
XX
PF   13-NOV-2002; 2002WO-US036810.
XX
PR   13-NOV-2001; 2001US-0350666P.
PR   21-NOV-2001; 2001US-0332464P.
PR   29-NOV-2001; 2001US-0334393P.
PR   03-DEC-2001; 2001US-0335394P.
PR   14-DEC-2001; 2001US-0340376P.
PR   08-JAN-2002; 2002US-0347211P.
PR   10-JAN-2002; 2002US-0347349P.
PR   08-FEB-2002; 2002US-0355250P.
PR   13-FEB-2002; 2002US-0356714P.
PR   20-FEB-2002; 2002US-0359077P.
PR   29-MAR-2002; 2002US-0368809P.
PR   04-APR-2002; 2002US-0370110P.
PR   12-APR-2002; 2002US-0372246P.
PR   05-JUN-2002; 2002US-0386614P.
PR   16-JUL-2002; 2002US-0396839P.
PR   22-JUL-2002; 2002US-0397775P.
PR   22-JUL-2002; 2002US-0397845P.
PR   09-SEP-2002; 2002US-0409450P.
XX
PA   (EOSB-) EOS BIOTECHNOLOGY INC.
XX
PI   Afar D,  Aziz N,  Ginsburg WM,  Gish KC,  Glynne R,  Hevezi PA;
PI   Mack DH,  Murray R,  Watson SR,  Wilson KE,  Zlotnik A;
XX
DR   WPI; 2003-468649/44.
DR   N-PSDB; ADN39613.
XX
PT   Determining the presence or absence of a pathological cell in a patient,
PT   useful for diagnosing, prognosing or treating cancer, comprises detecting
PT   a nucleic acid in a biological sample.
XX
PS   Claim 12; SEQ ID NO A214; 1385pp; English.
XX
CC   The invention relates to nucleic acids and proteins (ADN38683-ADN40064)
CC   whose expression is upregulated or downregulated in specific cancers or
CC   other diseases such as angiogenic or fibrotic disorders, and to methods
CC   of determining the presence or absence of a pathological cell in a
CC   patient by detecting a nucleic acid at least 80% identical to those of
CC   the invention or by detecting a polypeptide of the invention. The
CC   invention also relates to expression vectors and host cells comprising a
CC   nucleic acid of the invention; antibodies which specifically bind a
CC   polypeptide of the invention; use of such antibodies for drug targeting;
CC   and methods of screening for modulators of activity or expression of the
CC   polypeptides and nucleic acids. The nucleic acids, polypeptides,
CC   antibodies and methods are useful for diagnosing, prognosing and treating
CC   cancer and other conditions such as psoriasis, ischaemia, heart disease,
CC   atherosclerosis, inflammatory diseases, autoimmune diseases, retinal
CC   neovascularistaion syndromes, scarring and uterine fibroids. They may
CC   also be useful in wound healing and in contraception. The present
CC   sequence represents a polypeptide of the invention.
XX
SQ   Sequence 579 AA;

  Query Match             54.7%;  Score 2070.5;  DB 7;  Length 579;
  Best Local Similarity   71.8%;  Pred. No. 6.2e-164;
  Matches  420;  Conservative   48;  Mismatches   80;  Indels   37;  Gaps    4;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ----------LFSP---------- 213
              ||||:|:||||:||| |||||||| | ::| ||||          ||
Db          1 MSSCRYNGGVMRPLSNLSASRRNLHEMDSEAQPLQPPASVGGGGGASSPSADAAAAAAVS 60

Qy        214 SNPPEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA----------SSTTFPKANKRKN 263
              |: ||||:|  | |:::   |:          |:|          |::  |::|:||
Db         61 SSAPEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKKN 114

Qy        264 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRI 323
              |||||||||||||||||||||||||||||||||||||||||| | | |::|||||| |
Db        115 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCLI 174

Qy        324 SLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYK 383
              |||||||||||| || | :|||::|| |||||||||||| :| ||:||   | ||| |
Db        175 SLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNYT 234

Qy        384 FFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
              | | ||||||| ||   |||||||||||||||||||||||||||||||||||||||||||
Db        235 FTWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 294

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
              |||||||||||||||||||||||||||||||||||| |||||||||||||||||||||||
Db        295 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLISI 354

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              ||||||||||||:|||||||||||||||||||||||||||||||||||||||||||||||
Db        355 TFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 414

Qy        564 LTKRIKNAAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
              ||||:|||||||||||||:|||:|||||||||||||||||||||||||||||||||:|
Db        415 LTKRVKNAAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLND 474

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              ||||||||:| ||:|||:|::||:|||| ||:| :||:||| | | ::|| ||: |:||
Db        475 QANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIRQ 534

Qy        684 QQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
              ||:  : | :|:    |      :  |      |||: ||   ||
Db        535 QQRDFIEAQMESYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 579


RESULT 20
AEA18857
ID   AEA18857 standard; protein; 579 AA.
XX
AC   AEA18857;
XX
DT   28-JUL-2005  (first entry)
XX
DE   Amino acid sequence of human SK2 clone hSK2A-.
XX
KW   SK2 channel; neuropathic pain; neuroprotective; analgesic;
KW   gene expression; protein interaction.
XX
OS   Homo sapiens.
XX
PN   WO2005043973-A2.
XX
PD   19-MAY-2005.
XX
PF   28-OCT-2004; 2004WO-US035777.
XX
PR   28-OCT-2003; 2003US-0515143P.
XX
PA   (JANC ) JANSSEN PHARM NV.
XX
PI   Kaftan E,  Dubin A,  Chaplan SR;
XX
DR   WPI; 2005-366672/37.
DR   N-PSDB; AEA18855.
XX
PT   Use of small-conductance calcium-activated potassium (SK2) channels for
PT   identifying molecules for treating neuropathic pain or preventing the
PT   onset of neuropathic pain.
XX
PS   Example 3; SEQ ID NO 4; 86pp; English.
XX
CC   The specification describes the use of SK2 channels for identifying
CC   molecules for treating neuropathic pain. The method comprises contacting
CC   cells expressing SK2 with a test molecule; obtaining information
CC   indicative of cellular SK2 expression to obtain an SK2 Expression Value;
CC   comparing the SK2 Expression Value with a control SK2 Expression Value;
CC   and identifying a test molecule that causes the cells to display an SK2
CC   Expression Value that is different from the control SK2 Expression Value.
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CC   The SK2 channel is useful for identifying molecules for treating
CC   neuropathic pain or preventing the onset of neuropathic pain. SK2
CC   channels are also useful a molecular targets for compounds to prevent the
CC   onset or to treat neuropathic pain. The present sequence represents human
CC   SK2 clone hSK2A-. This clone does not comprise a single alanine insertion
CC   at position 58, relative to clone hSKA+ (see AEA18856).
XX
SQ   Sequence 579 AA;

  Query Match             54.7%;  Score 2070.5;  DB 9;  Length 579;
  Best Local Similarity   71.8%;  Pred. No. 6.2e-164;
  Matches  420;  Conservative   48;  Mismatches   80;  Indels   37;  Gaps    4;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ----------LFSP---------- 213
              ||||:|:||||:||| |||||||| | ::| ||||             ||
Db          1 MSSCRYNGGVMRPLSNLSASRRNLHEMDSEAQPLQPPASVGGGGGASSPSAAAAAAAAVS 60

Qy        214 SNPPEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA----------SSTTFPKANKRKN 263
              |: ||||:|  | |:::   |:          |:|           |::  |::|:||
Db         61 SSAPEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKKN 114

Qy        264 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRI 323
              ||||||||||||||||||||||||||||||||||||||||| | | |::|||||| |
Db        115 QNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCLI 174

Qy        324 SLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYK 383
              |||||||||||| || | :|||::|| |||||||||||| :| ||:||   | ||| |
Db        175 SLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNYT 234

Qy        384 FFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
              | | ||||||| ||   ||||||||||||||||||||||||||||||||||||||||||
Db        235 FTWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 294

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
              ||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||
Db        295 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLISI 354

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              ||||||||||||:||||||||||||||||||||||||||||||||||||||||||||||
Db        355 TFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 414

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
              ||||:|||||||||||||:|||:|||||||||||||||||||||||||||||||:|
Db        415 LTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLND 474

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              ||||||||:| ||:|||:|::||:|||| ||:| :||:||| |  | ::|| ||: |:||
Db        475 QANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIRQ 534

Qy        684 QQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
              ||:  : | :|:    |      :  |      |||: ||  ||
Db        535 QQRDFIEAQMESYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 579


RESULT 21
AEA18856
ID   AEA18856 standard; protein; 580 AA.
XX
AC   AEA18856;
XX
DT   28-JUL-2005  (first entry)
XX
DE   Amino acid sequence of human SK2 clone hSK2A+.
XX
KW   SK2 channel; neuropathic pain; neuroprotective; analgesic;
KW   gene expression; protein interaction.
XX
OS   Homo sapiens.
XX
PN   WO2005043973-A2.
XX
PD   19-MAY-2005.
XX
PF   28-OCT-2004; 2004WO-US035777.
XX
PR   28-OCT-2003; 2003US-0515143P.
XX
PA   (JANC ) JANSSEN PHARM NV.
XX
PI   Kaftan E,  Dubin A,  Chaplan SR;
XX
DR   WPI; 2005-366672/37.
DR   N-PSDB; AEA18854.
XX
PT   Use of small-conductance calcium-activated potassium (SK2) channels for
PT   identifying molecules for treating neuropathic pain or preventing the
PT   onset of neuropathic pain.
XX
PS   Example 3; SEQ ID NO 3; 86pp; English.
XX
CC   The specification describes the use of SK2 channels for identifying
CC   molecules for treating neuropathic pain. The method comprises contacting
CC   cells expressing SK2 with a test molecule; obtaining information
CC   indicative of cellular SK2 expression to obtain an SK2 Expression Value;
CC   comparing the SK2 Expression Value with a control SK2 Expression Value;
CC   and identifying a test molecule that causes the cells to display an SK2
CC   Expression Value that is different from the control SK2 Expression Value.
CC   The SK2 channel is useful for identifying molecules for treating
CC   neuropathic pain or preventing the onset of neuropathic pain. SK2
CC   channels are also useful a molecular targets for compounds to prevent the
CC   onset or to treat neuropathic pain. The present sequence represents human
CC   SK2 clone hSK2A+. This clone comprises a single alanine insertion at
CC   position 58, relative to clone hSKA- (see AEA18857).
XX
SQ   Sequence 580 AA;

  Query Match             54.7%;  Score 2070;  DB 9;  Length 580;
  Best Local Similarity   71.7%;  Pred. No. 6.9e-164;
  Matches  420;  Conservative   48;  Mismatches   80;  Indels   38;  Gaps    4;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ----------LFSP---------- 213
              ||||:|:||||:||| |||||||| | ::| ||||             ||
Db          1 MSSCRYNGGVMRPLSNLSASRRNLHEMDSEAQPLQPPASVGGGGGASSPSAAAAAAAAAV 60

Qy        214 -SNPPEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA----------SSTTFPKANKRK 262
               |: ||||:|  | |:::   |:          |:|           |::  |::|:|
Db         61 SSSAPEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGSGHGSSSGTKSSKKK 114

Qy        263 NQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCR 322
              |||||||||||||||||||||||||||||||||||||||| | | |::|||||
Db        115 NQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCL 174

Qy        323 ISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEY 382
              |||||||||||| || | :|||::|| |||||||||||| :| ||:||   | ||| |
Db        175 ISLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNY 234

Qy        383 KFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNK 442
               | | ||||||| ||   ||||||||||||||||||||||||||||||||||||||||||
Db        235 FTFWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNK 294

Qy        443 INFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLIS 502
              |||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||
Db        295 INFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLIS 354

Qy        503 ITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDT 562
              ||||||||||||:||||||||||||||||||||||||||||||||||||||||||||||
Db        355 ITFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDT 414

Qy        563 QLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLS 622
              |||||:|||||||||||||:|||:|||||||||||||||||||||||||||||||||:
Db        415 QLTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLN 474

Qy        623 DQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLR 682
              |||||||||:| ||:|||:|::||:|||| ||:| :||:||| |  | ::|| ||: |:|
Db        475 DQANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLETLIGSIHALPGLISQTIR 534
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Qy        683 QQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
              |||:  : | :|:    |       :  |       |||: ||   ||
Db        535 QQQRDFIEAQMESYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 580


RESULT 22
AAW63702
ID   AAW63702 standard; protein; 580 AA.
XX
AC   AAW63702;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Rat rSK2 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 2; rSK2;
KW   rat; potassium ion flux.
XX
OS   Rattus sp.
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35446.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 94-95; 151pp; English.
XX
CC   This sequence is the rat small conductance calcium-activated potassium
CC   channel protein 2 (rSK2) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 580 AA;

  Query Match             54.2%;  Score 2050;  DB 2;  Length 580;
  Best Local Similarity   71.2%;  Pred. No. 3.2e-162;
  Matches  417;  Conservative   48;  Mismatches   83;  Indels   38;  Gaps    4;

Qy        175 MSSCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQ-----------LFSP-------SNP 216
              ||||:|:||||:||| ||:|||||  | ::| ||||            ||       |:
Db          1 MSSCRYNGGVMRPLSNLSSSRRNLHEMDSEAQPLQPPASVVGGGGGASSPSAAAAASSSA 60

Qy        217 PEIVISSREDNHAHQTLLHHPNATHNHQHAGTTA-------------SSTTFPKANKRK 262
              ||||:|  | |:::  |:          |:|               |::  |::|:|
Db         61 PEIVVSKPEHNNSNNLALYGTGG------GGSTGGGGGGGGGGGGSGHGSSSGTKSSKKK 114

Qy        263 NQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCR 322
              |||||||||||||||||||||||||||||||||||||||||||||||||| | | |::||||||
Db        115 NQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGAYDKASLYSLALKCL 174

Qy        323 ISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEY 382
              |||||||||||| || | :|||::|| |||||||||||| :| ||:||   | ||| |
Db        175 ISLSTIILLGLIIVYHAREIQLFMVDNGADDWRIAMTYERIFFICLEILVCAIHPIPGNY 234

Qy        383 KFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNK 442
              | | ||||||| ||   ||||||||||||||||||||||||||||||||||||||||||
Db        235 TFTWTARLAFSYAPSTTTADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNK 294

Qy        443 INFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLIS 502
              |||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db        295 INFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRACERYHDQQDVTSNFLGAMWLIS 354

Qy        503 ITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDT 562
              |||||||||||||:|||||||||||||||||||||||||||||||||||||||||||||
Db        355 ITFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDT 414

Qy        563 QLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLS 622
              |||||:|||||||||||||:|||:|||||||||||||||||||||||||||||||||||:
Db        415 QLTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLN 474

Qy        623 DQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLR 682
              |||||||||:| |::|||:|::|| |||| ||:| :||:||| |  | ::|| ||: |:|
Db        475 DQANTLVDLAKTQDIMYDMISDLNVRSEDFEKRIVTLETKLETLIGSIHALPGLISQTIR 534

Qy        683 QQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPYTSS 728
              |||:  :   :|    |       :  |       |||: ||   ||
Db        535 QQQRDFIETQMENYDKHVTYNAERSRSSSRRRRSSSTAPPTSSESS 580


RESULT 23
AAW63701
ID   AAW63701 standard; protein; 561 AA.
XX
AC   AAW63701;
XX
DT   01-OCT-1998  (first entry)
XX
DE   Human hSK1 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 1; hSK1;
KW   human; potassium ion flux.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 164
FT                   /note= "encoded by ATG"
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35445.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
```

```
XX
PS   Claim 2; Page 92-93; 151pp; English.
XX
CC   This sequence is the human small conductance calcium-activated potassium
CC   channel protein 1 (hSK1) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 561 AA;

  Query Match             47.2%;  Score 1785;  DB 2;  Length 561;
  Best Local Similarity   68.1%;  Pred. No. 4.7e-140;
  Matches  360;  Conservative   59;  Mismatches   86;  Indels   24;  Gaps    7;

Qy        166 DSNPFTEIAMSSCKYSGGVMKPL-SRLSASRRNLIEAETEGQPLQLFSPSNPP--EIVIS 222
              :|| |:: |:|  |:| | :|| |   |  |:  : |  | | |   | : |  ::|::
Db         10 EPNPCTQVVMNSHSYNGSVGRPLGSGPGALGRDPPDPEA-GHPPQ---PPHSPGLQVVVA 65

Qy        223 SRE------DNHAHQTLLHHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRAL 276
                 |      :  |      :       ||   :|         |  |:|::|||||||
Db         66 KSEPARPSPGSPRGQPQDQDDDEDDEEDEAGRQRAS--------GKPSNVGHRLGHRRAL 117

Qy        277 FEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIA 336
              |||||||||||||||||||||| |||||||:|:|:|::| |||| ||||| |||||::
Db        118 FEKRKRLSDYALIFGMFGIVVMVTETELSWGVYTKESLYSFALKCLISLSTAILLGLVVL 177

Qy        337 YHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTP 396
              || | :|||::|| ||||||||| ||:  |||| |    | :|| |:| | |||||:| |
Db        178 YHAREIQLFMVDNGADDWRIAMTCERVFLISLELAVCAIHPVPGHYRFTWTARLAFTYAP 237

Qy        397 SRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMT 456
              | |||||::|||||||||||: |||||||:|||||||||||||| ||||||||||
Db        238 SVAEADVDVLLSIPMFLRLYLLGRVMLLHSKIFTDASSRSIGALNKITFNTRFVMKTLMT 297

Qy        457 ICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPH 516
              |||||||||||| ||||||||||||||:|:|||||||||||||||||||||||||||||
Db        298 ICPGTVLLVFSISSWIIAAWTVRVCERYHDKQEVTSNFLGAMWLISITFLSIGYGDMVPH 357

Qy        517 TYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVL 576
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||
Db        358 TYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRVKNAAANVL 417

Qy        577 RETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQ---LRSVKMEQRKLSDQANTLVDLSK 633
              |||||||||:|:|| | |:|||||||||||||   |||||:|| ||:|||||| ||:|
Db        418 RETWLIYKHTRLVKKPDQARVRKHQRKFLQAIHQAQKLRSVKIEQGKLNDQANTLTDLAK 477

Qy        634 MQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLR 682
                | |||||::||: : |:|| :: :|||:|: | ||  :|| |||  :|
Db        478 TQTVMYDLVSELHAQHEELEARLATLESRLDALGASLQALPGLIAQAIR 526


RESULT 24
ADD46553
ID   ADD46553 standard; protein; 543 AA.
XX
AC   ADD46553;
XX
DT   02-DEC-2004  (revised)
DT   29-JAN-2004  (first entry)
XX
DE   Human Protein XP_012875, SEQ ID NO 12234.
XX
KW   Human; pain; neuronal tissue; gene therapy;
KW   spinal segmental nerve injury; chronic constriction injury; CCI;
KW   spared nerve injury; SNI; Chung.
XX
OS   Homo sapiens.
OS   Unidentified.
XX
PN   WO2003016475-A2.
XX
PD   27-FEB-2003.
XX
PF   14-AUG-2002; 2002WO-US025765.
XX
PR   14-AUG-2001; 2001US-0312147P.
PR   01-NOV-2001; 2001US-0346382P.
PR   26-NOV-2001; 2001US-0333347P.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
PA   (FARB ) BAYER AG.
XX
PI   Woolf C,  D'urso D,  Befort K,  Costigan M;
XX
DR   WPI; 2003-268312/26.
DR   GENBANK; XP_012875.
XX
PT   New composition comprising two or more isolated polypeptides, useful for
PT   preparing a medicament for treating pain in an animal.
XX
PS   Example 1; Page; 1017pp; English.
XX
CC   The invention discloses a composition comprising two or more isolated rat
CC   or human polynucleotides or a polynucleotide which represents a fragment,
CC   derivative or allelic variation of the nucleic acid sequence. Also
CC   claimed are a vector comprising the novel polynucleotide, a host cell
CC   comprising the vector, a method for identifying a nucleotide sequence
CC   which is differentially regulated in an animal subjected to pain and a
CC   kit to perform the method, an array, a method for identifying an agent
CC   that increases or decreases the expression of the polynucleotide sequence
CC   that is differentially expressed in neuronal tissue of a first animal
CC   subjected to pain, a method for identifying a compound which regulates
CC   the expression of a polynucleotide sequence which is differentially
CC   expressed in an animal subjected to pain, a method for identifying a
CC   compound that regulates the activity of one or more of the
CC   polynucleotides, a method for producing a pharmaceutical composition, a
CC   method for identifying a compound or small molecule that regulates the
CC   activity in an animal of one or more of the polypeptides given in the
CC   specification, a method for identifying a compound useful in treating
CC   pain and a pharmaceutical composition comprising the one or more
CC   polypeptides or their antibodies. The polynucleotide or the compound that
CC   modulates its activity is useful for preparing a medicament for treating
CC   pain (e.g. spinal segmental nerve injury (Chung), chronic constriction
CC   injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene
CC   therapy). The sequence presented is a human protein (described in Table 3
CC   of the specification) which is differentially expressed during pain.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic form directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 543 AA;

  Query Match             46.6%;  Score 1763;  DB 7;  Length 543;
  Best Local Similarity   68.7%;  Pred. No. 3.1e-138;
  Matches  357;  Conservative   56;  Mismatches   83;  Indels   24;  Gaps    7;

Qy        175 MSSCKYSGGVMKPL-SRLSASRRNLIEAETEGQPLQLFSPSNPP--EIVISSRE------ 225
              |:|  |:| | :|| |   |  |:  : |  | | |   | : |  ::|::  |
Db          1 MNSHSYNGSVGRPLGSGPGALGRDPPDPEA-GHPPQ---PPHSPGLQVVVAKSEPARPSP 56

Qy        226 DNHAHQTLLHHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSD 285
              . :  |      :       ||   :|         |  |:|::||||||||||||||||
Db         57 GSPRGQPQDQDDDEDDEEDEAGRQRAS--------GKPSNVGHRLGHRRALFEKRKRLSD 108
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Qy        286 YALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLF 345
              ||||||||||||||| |||||||:|:|:|::| |||| ||||| |||||:: || | :|||
Db        109 YALIFGMFGIVVMVTETELSWGVYTKESLYSFALKCLISLSTAILLGLVVLYHAREIQLF 168

Qy        346 VIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAEADVDI 405
              ::|| ||||||||| ||:  }|||: |   | :|| |:| | |||||:| || ||||||:
Db        169 MVDNGADDWRIAMTCERVFLISLELAVCAIHPVPGHYRFTWTARLAFTYAPSVAEADVDV 228

Qy        406 ILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLV 465
              :|||||||||||: ||||||||:||||||||||||||| ||||||||||||||||||||||
Db        229 LLSIPMFLRLYLLGRVMLLHSKIFTDASSRSIGALNKITFNTRFVMKTLMTICPGTVLLV 288

Qy        466 FSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCL 525
              |||| |||||||||||||||:|:|||||||||||||||||||||||||||||||||||||
Db        289 FSISSWIIAAWTVRVCERYHDKQEVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCL 348

Qy        526 LTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKH 585
              ||||||||||||||||||||||||||||||||||||||||||||:||||||||||||||||
Db        349 LTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRVKNAAANVLRETWLIYKH 408

Qy        586 TKLLKKIDHAKVRKHQRKFLQAIHQ---LRSVKMEQRKLSDQANTLVDLSKMQNVMYDLI 642
              |:|:|| | |:|||||||||||||   |||||:|| ||:|||||| ||:| | |||||:
Db        409 TRLVKKPDQARVRKHQRKFLQAIHQAQKLRSVKIEQGKLNDQANTLTDLAKTQTVMYDLV 468

Qy        643 TELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLR 682
              :||: : |:|| :: :|||:|: | ||  :|| |||  :|
Db        469 SELHAQHEELEARLATLESRLDALGASLQALPGLIAQAIR 508
```

RESULT 25
ADD46551
ID ADD46551 standard; protein; 536 AA.
XX
AC ADD46551;
XX
DT 02-DEC-2004 (revised)
DT 29-JAN-2004 (first entry)
XX
DE Rat Protein AAB82740, SEQ ID NO 12232.
XX
KW Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;
KW chronic constriction injury; CCI; spared nerve injury; SNI; Chung.
XX
OS Rattus norvegicus.
OS Unidentified.
XX
PN WO2003016475-A2.
XX
PD 27-FEB-2003.
XX
PF 14-AUG-2002; 2002WO-US025765.
XX
PR 14-AUG-2001; 2001US-0312147P.
PR 01-NOV-2001; 2001US-0346382P.
PR 26-NOV-2001; 2001US-0333347P.
XX
PA (GEHO) GEN HOSPITAL CORP.
PA (FARB) BAYER AG.
XX
PI Woolf C, D'urso D, Befort K, Costigan M;
XX
DR WPI; 2003-268312/26.
DR GENBANK; AAB82740.
XX
PT New composition comprising two or more isolated polypeptides, useful for
PT preparing a medicament for treating pain in an animal.
XX
PS Example 1; Page; 1017pp; English.
XX
CC The invention discloses a composition comprising two or more isolated rat
CC or human polynucleotides or a polynucleotide which represents a fragment,
CC derivative or allelic variation of the nucleic acid sequence. Also
CC claimed are a vector comprising the novel polynucleotide, a host cell
CC comprising the vector, a method for identifying a nucleotide sequence
CC which is differentially regulated in an animal subjected to pain and a
CC kit to perform the method, an array, a method for identifying an agent
CC that increases or decreases the expression of the polynucleotide sequence
CC that is differentially expressed in neuronal tissue of a first animal
CC subjected to pain, a method for identifying a compound which regulates
CC the expression of a polynucleotide sequence which is differentially
CC expressed in an animal subjected to pain, a method for identifying a
CC compound that regulates the activity of one or more of the
CC polynucleotides, a method for producing a pharmaceutical composition, a
CC method for identifying a compound or small molecule that regulates the
CC activity in an animal of one or more of the polypeptides given in the
CC specification, a method for identifying a compound useful in treating
CC pain and a pharmaceutical composition comprising the one or more
CC polypeptides or their antibodies. The polynucleotide or the compound that
CC modulates its activity is useful for preparing a medicament for treating
CC pain (e.g. spinal segmental nerve injury (Chung), chronic constriction
CC injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene
CC therapy). The sequence presented is a rat protein (described in Table 3
CC of the specification) which is differentially expressed during pain.
CC Note: The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic form directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 536 AA;

Query Match 45.3%; Score 1712; DB 7; Length 536;
Best Local Similarity 64.7%; Pred. No. 5.6e-134;
Matches 341; Conservative 60; Mismatches 82; Indels 44; Gaps 6;

```
Qy        175 MSSCKYSGGVMKPLSR----------LSASRRNL------IEAETEGQPLQLFSPSNPP 217
              |||  ::| | :||               | |         ::   :|||  | ||| |
Db          1 MSSRSHNGSVGRPLGSGPGFLGWEPVDPEAGRPRQPTQGPGLQMMAKGQPAGL-SPSGP- 58

Qy        218 EIVISSREDNHAHQTLLHHPNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALF 277
                          |           :    |:             |   : ::||||||||
Db         59 ----------RGHSQAQEEEEEEEDEDRPGS-----------GKPPTVSHRLGHRRALF 96

Qy        278 EKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTIILLGLIIAY 337
              |||||||||||||||||||| |||||||:|:|:|: | |||| |||||:|||||:| |
Db         97 EKRKRLSDYALIFGMFGIVVMVTETELSWGVYTKESLCSFALKCLISLSTVILLGLVILY 156

Qy        338 HTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAARLAFSYTPS 397
              | | :|||::|| |||||||||:||:  ||||: |   | :|| |:| | ||||||  ||
Db        157 HAREIQLFLVDNGADDWRIAMTWERVSLISLELAVCAIHPVPGHYRFTWTARLAFSLVPS 216

Qy        398 RAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTI 457
              ||||||::|||||||||||:||||||||::|||||||||||||:: |||||| ||||||
Db        217 AAEADVDVLLSIPMFLRLYLLARVMLLHSRIFTDASSRSIGALNRVTFNTRFVTKTLMTI 276

Qy        458 CPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHT 517
              |||||||||||| ||:|||||||||||||:|:|||||||||||||||||||||||||||||
Db        277 CPGTVLLVFSISSWIVAAWTVRVCERYHDKQEVTSNFLGAMWLISITFLSIGYGDMVPHT 336

Qy        518 YCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLR 577
              |||||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||
Db        337 YCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRVKNAAANVLR 396

Qy        578 ETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQ---LRSVKMEQRKLSDQANTLVDLSKM 634
              |||||||||:|:|| | ::|||||||||||||   ||:||:|| |::|||||| ||:|
Db        397 ETWLIYKHTRLVKKPDQSRVRKHQRKFLQAIHQAQKLRTVKIEQGKVNDQANTLADLAKA 456

Qy        635 QNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTL 681
              |:: |::::||  : |:|| :: :|||:|: | ||  :|| |||  :
Db        457 QSIAYEVVSELQAQQEELEARLAALESRLDVLGASLQALPSLIAQAI 503
```

RESULT 26
AAW63704
ID AAW63704 standard; protein; 458 AA.
XX
AC AAW63704;
XX

```
DT   01-OCT-1998  (first entry)
XX
DE   Rat rSK1 protein.
XX
KW   Small conductance calcium-activated potassium channel protein 1; rSK1;
KW   rat; potassium ion flux.
XX
OS   Rattus sp.
XX
PN   WO9811139-A1.
XX
PD   19-MAR-1998.
XX
PF   10-SEP-1997;   97WO-US016033.
XX
PR   11-SEP-1996;   96US-0026451P.
PR   07-MAR-1997;   97US-0040052P.
PR   17-APR-1997;   97US-0045233P.
XX
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (ICAG-) ICAGEN INC.
XX
PI   Adelman JP,  Maylie J,  Bond CT,  Silvia CP;
XX
DR   WPI; 1998-207332/18.
DR   N-PSDB; AAV35448.
XX
PT   DNA encoding calcium-activated potassium channel - useful in assays to
PT   identify compounds which increase or decrease potassium ion flux.
XX
PS   Claim 2; Page 98-99; 151pp; English.
XX
CC   This sequence is the rat small conductance calcium-activated potassium
CC   channel protein 1 (rSK1) of the invention. The proteins of the invention
CC   are monomers of a calcium-activated potassium channel, where the monomer:
CC   (i) has a calculated molecular weight of between 40 and 80 kDa; and (ii)
CC   has a unit conductance of between 2 and 60 pS when the monomer is in the
CC   functional polymeric form of a potassium chain and is expressed in a
CC   Xenopus oocyte. Antibodies specific for the protein, and probes specific
CC   for the DNA can be used to detect the presence of the protein or DNA
CC   sequences in a sample. Host cells expression of the protein can be used
CC   in assays to identify compounds which increase or decrease the potassium
CC   ion flux through the protein. The transfected host cell can also be used
CC   for the recombinant production of the protein. The DNA sequences can also
CC   be used for determine mutations in the SK and IK genes in a computer
CC   system. The proteins encoded by the SK and IK genes can be used in a
CC   computer system for determining their three dimensional structure, which
CC   is useful for determining ligands that bind to the proteins
XX
SQ   Sequence 458 AA;

  Query Match             44.9%;  Score 1699.5;  DB 2;  Length 458;
  Best Local Similarity   76.1%;  Pred. No. 5e-133;
  Matches  322;  Conservative   52;  Mismatches   46;  Indels    3;  Gaps    1;

Qy        262 KNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKC 321
              |    : ::|||||||||||||||||||||||||||||||| |||||||:|:|:|: | ||||
Db          3 KPPTVSHRLGHRRALFEKRKRLSDYALIFGMFGIVVMVTETELSWGVYTKESLCSFALKC 62

Qy        322 RISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGE 381
               |||||:|||||:| || | :|||::|| |||||||||:||:  ||||: |    | :||
Db         63 LISLSTVILLGLVILYHAREIQLFLVDNGADDWRIAMTWERVSLISLELAVCAIHPVPGH 122

Qy        382 YKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALN 441
              |:| | ||||||  || ||||||::||||||||||:||||||||::|||||||||||||
Db        123 YRFTWTARLAFSLVPSAAEADVDVLLSIPMFLRLYLLARVMLLHSRIFTDASSRSIGALN 182

Qy        442 KINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLI 501
              ::  |||||| |||||||||||||||||| ||:|||||||||||||:|:||||||||||||
Db        183 RVTFNTRFVTKTLMTICPGTVLLVFSISSWIVAAWTVRVCERYHDKQEVTSNFLGAMWLI 242

Qy        502 SITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMD 561
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        243 SITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMD 302

Qy        562 TQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQ---LRSVKMEQ 618
              ||||||:|||||||||||||||||:|:|| | ::|||||||||||||   ||:||:||
Db        303 TQLTKRVKNAAANVLRETWLIYKHTRLVKKPDQSRVRKHQRKFLQAIHQAQKLRTVKIEQ 362

Qy        619 RKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIA 678
              |::|||||| ||:| |:: |::::||  : |:|| :: :|||:|: | ||  :|| |||
Db        363 GKVNDQANTLADLAKAQSIAYEVVSELQAQQEELEARLAALESRLDVLGASLQALPSLIA 422

Qy        679 DTL 681
                :
Db        423 QAI 425


RESULT 27
AEF80132
ID   AEF80132 standard; protein; 330 AA.
XX
AC   AEF80132;
XX
DT   06-APR-2006  (first entry)
XX
DE   Cancer-associated polypeptide sequence hP27-009.1 SEQ ID NO:28.
XX
KW   DNA microarray; cancer; neoplasm; cytostatic; diagnosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 277
FT                   /note= "Encoded by AGC"
XX
PN   US2006024677-A1.
XX
PD   02-FEB-2006.
XX
PF   20-JUL-2004; 2004US-00895974.
XX
PR   20-JUL-2004; 2004US-00895974.
XX
PA   (MORR/) MORRIS D W.
PA   (MALA/) MALANDRO M S.
PA   (LAIA/) LAI A.
PA   (TSEC/) TSE C.
PA   (FATT/) FATTAEY A.
XX
PI   Morris DW,  Malandro MS,  Lai A,  Tse C,  Fattaey A;
XX
DR   WPI; 2006-135411/14.
DR   N-PSDB; AEF80130, AEF80131.
XX
PT   Nucleic acid array for detecting cancer-associated (CA) nucleic acid,
PT   consists of nucleic acid probes having specific contiguous nucleotides of
PT   CA polynucleotide.
XX
PS   Disclosure; SEQ ID NO 28; 264pp; English.
XX
CC   The invention relates to a novel nucleic acid array (I) for detecting a
CC   cancer-associated (CA) nucleic acid, consisting of 2 or more nucleic acid
CC   probes each comprising 10 or more contiguous nucleotides of 2 or more CA
CC   polynucleotide sequences, or its complement. The invention has cytostatic
CC   activity. The nucleic acid array is useful for detecting a CA nucleic
CC   acid. An antibody of the invention is useful for detecting the presence
CC   or absence of cancer cells. A method of the invention is useful for
CC   inhibiting expression of a CA gene in a cell, or for treating cancer. The
CC   CA polynucleotide or polypeptide as mentioned in (I) or (II) is useful as
CC   vaccine for treating cancer e.g. lymphoma or leukemia. The present
CC   sequence represents a human CA polypeptide (CAP) of the invention.
XX
SQ   Sequence 330 AA;

  Query Match             43.0%;  Score 1628;  DB 10;  Length 330;
```

```
  Best Local Similarity   98.1%;  Pred. No. 3e-127;
  Matches  309;  Conservative    0;  Mismatches    2;  Indels    4;  Gaps    1;

Qy          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPASPAAPQQPLGPSLQ 60
              ||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||
Db          1 MDTSGHFHDSGVGDLDEDPKCPCPSSGDEQQQQQQQQQQQQPPPPAPPAAPQQPLGPSLQ 60

Qy         61 PQPPQLQQQQQQQQQQQQQS----PHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNS 116
              ||||||||||||||||||||    ||||||||||||||||||||||||||||||||||
Db        .61 PQPPQLQQQQQQQQQQQQQQQQPPHPLSQLAQLQSQPVHPGLLHSSPTAFRAPPSSNS 120

Qy        117 TAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMS 176
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 TAILHPSSRQGSQLNLNDHLLGHSPSSTATSGPGGGSRHRQASPLVHRRDSNPFTEIAMS 180

Qy        177 SCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHH 236
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SCKYSGGVMKPLSRLSASRRNLIEAETEGQPLQLFSPSNPPEIVISSREDNHAHQTLLHH 240

Qy        237 PNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIV 296
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 PNATHNHQHAGTTASSTTFPKANKRKNQNIGYKLGHRRALFEKRKRLSDYALIFGMFGIV 300

Qy        297 VMVIETELSWGLYSK 311
              |||||||||||||||
Db        301 VMVIETELSWGLYSK 315
```

```
RESULT 28
AAW67823
ID   AAW67823 standard; protein; 217 AA.
XX
AC   AAW67823;
XX
DT   25-MAR-1999  (first entry)
XX
DE   Human secreted protein encoded by gene 17 clone HELBA06.
XX
KW   Human; secreted protein; fusion protein; gene therapy; protein therapy;
KW   diagnosis; tissue; cancer; tumour; neurodegenerative disorder; leukaemia;
KW   developmental abnormality; foetal deficiency; blood; allergy; renal;
KW   immune system; asthma; lymphocytic disease; brain; hepatic; lymphoma;
KW   inflammation; ischaemic shock; Alzheimer's disease; restenosis; AIDS;
KW   cognitive disorder; schizophrenia; prostate; obesity; osteoclast; thymus;
KW   osteoporosis; arthritis; testis; lung; thyroiditis; thyroid; digestion;
KW   endocrine; metabolism; regulation; malabsorption; gastritis; neoplasm.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 217
FT                   /label= unknown
XX
PN   WO9842738-A1.
XX
PD   01-OCT-1998.
XX
PF   19-MAR-1998;   98WO-US005311.
XX
PR   21-MAR-1997;   97US-0041276P.
PR   21-MAR-1997;   97US-0041277P.
PR   21-MAR-1997;   97US-0041281P.
PR   21-MAR-1997;   97US-0042344P.
PR   30-MAY-1997;   97US-0048069P.
PR   30-MAY-1997;   97US-0048094P.
PR   30-MAY-1997;   97US-0048095P.
PR   30-MAY-1997;   97US-0048096P.
PR   30-MAY-1997;   97US-0048099P.
PR   30-MAY-1997;   97US-0048131P.
PR   30-MAY-1997;   97US-0048135P.
PR   30-MAY-1997;   97US-0048154P.
PR   30-MAY-1997;   97US-0048160P.
PR   30-MAY-1997;   97US-0048186P.
PR   30-MAY-1997;   97US-0048187P.
PR   30-MAY-1997;   97US-0048188P.
PR   30-MAY-1997;   97US-0048351P.
PR   30-MAY-1997;   97US-0048352P.
PR   30-MAY-1997;   97US-0048355P.
PR   30-MAY-1997;   97US-0050937P.
PR   05-AUG-1997;   97US-0054804P.
PR   19-AUG-1997;   97US-0056370P.
PR   02-OCT-1997;   97US-0060862P.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Young P,  Greene JM,  Ferrie AM,  Ruben SM,  Rosen CA,  Duan R,  Hu J;
PI   Florence KA,  Olsen HS,  Ebner R,  Brewer LA,  Moore PA,  Shi Y;
PI   Lafleur DW,  Ni J;
XX
DR   WPI; 1999-070066/06.
DR   N-PSDB; AAX00627.
XX
PT   New isolated human genes and the secreted polypeptides they encode -
PT   useful for diagnosis and treatment of e.g. cancers, neurological
PT   disorders, immune diseases, inflammation or blood disorders.
XX
PS   Claim 11; Page 283; 385pp; English.
XX
CC   This sequence represents a secreted human protein encoded by the gene
CC   clone detailed in the descriptor line. The gene can be used to generate
CC   fusion proteins by linking to the gene to a human immunoglobulin Fc
CC   portion (e.g. AAX00602) for increasing the stability of the fused protein
CC   as compared to the human protein only. The invention relates to 87 novel
CC   genes and their fragments (nucleic acid sequences: AAX00611-X00724; amino
CC   acid sequences AAW67807-W68004) which are useful for preventing, treating
CC   or ameliorating medical conditions e.g. by protein or gene therapy. Also,
CC   pathological conditions can be diagnosed by determining the amount of the
CC   new polypeptides in a sample or by determining the presence of mutations
CC   in the new polynucleotides. Specific uses are described for each of the
CC   87 polynucleotides, based on which tissues they are most highly expressed
CC   in (see AAX00611 for described uses)
XX
SQ   Sequence 217 AA;
```

```
  Query Match             26.1%;  Score 986.5;  DB 2;  Length 217;
  Best Local Similarity   92.4%;  Pred. No. 7.9e-74;
  Matches  194;  Conservative    0;  Mismatches    1;  Indels   15;  Gaps    1;

Qy        411 MFLRLYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISL 470
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFLRLYLIARVMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISL 60

Qy        471 WIIAAWTVRVCER---------------YHDQQDVTSNFLGAMWLISITFLSIGYGDMVP 515
              ||||||||||||               ||||||||||||||||||||||||||||||||
Db         61 WIIAAWTVRVCESPESPAQPSGSSLPAWYHDQQDVTSNFLGAMWLISITFLSIGYGDMVP 120

Qy        516 HTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANV 575
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANV 180

Qy        576 LRETWLIYKHTKLLKKIDHAKVRKHQRKFL 605
              |||||||||||||||||||||||||||||
Db        181 LRETWLIYKHTKLLKKIDHAKVRKHQRKFL 210
```

```
RESULT 29
ABG07471
ID   ABG07471 standard; protein; 247 AA.
XX
AC   ABG07471;
XX
DT   13-FEB-2002  (first entry)
XX
DE   Novel human diagnostic protein #7462.
XX
KW   Human; chromosome mapping; gene mapping; gene therapy; forensic;
```

```
KW   food supplement; medical imaging; diagnostic; genetic disorder.
XX
OS   Homo sapiens.
XX
PN   WO200175067-A2.
XX
PD   11-OCT-2001.
XX
PF   30-MAR-2001; 2001WO-US008631.
XX
PR   31-MAR-2000; 2000US-00540217.
PR   23-AUG-2000; 2000US-00649167.
XX
PA   (HYSE-) HYSEQ INC.
XX
PI   Drmanac RT,  Liu C,  Tang YT;
XX
DR   WPI; 2001-639362/73.
DR   N-PSDB; AAS71658.
XX
PT   New isolated polynucleotide and encoded polypeptides, useful in
PT   diagnostics, forensics, gene mapping, identification of mutations
PT   responsible for genetic disorders or other traits and to assess
PT   biodiversity.
XX
PS   Claim 20; SEQ ID NO 37830; 103pp; English.
XX
CC   The invention relates to isolated polynucleotide (I) and polypeptide (II)
CC   sequences. (I) is useful as hybridisation probes, polymerase chain
CC   reaction (PCR) primers, oligomers, and for chromosome and gene mapping,
CC   and in recombinant production of (II). The polynucleotides are also used
CC   in diagnostics as expressed sequence tags for identifying expressed
CC   genes. (I) is useful in gene therapy techniques to restore normal
CC   activity of (II) or to treat disease states involving (II). (II) is
CC   useful for generating antibodies against it, detecting or quantitating a
CC   polypeptide in tissue, as molecular weight markers and as a food
CC   supplement. (II) and its binding partners are useful in medical imaging
CC   of sites expressing (II). (I) and (II) are useful for treating disorders
CC   involving aberrant protein expression or biological activity. The
CC   polypeptide and polynucleotide sequences have applications in
CC   diagnostics, forensics, gene mapping, identification of mutations
CC   responsible for genetic disorders or other traits to assess biodiversity
CC   and to produce other types of data and products dependent on DNA and
CC   amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic
CC   amino acid sequences of the invention. Note: The sequence data for this
CC   patent did not appear in the printed specification, but was obtained in
CC   electronic format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences
XX
SQ   Sequence 247 AA;

  Query Match             24.0%;  Score 907.5;  DB 4;  Length 247;
  Best Local Similarity   74.7%;  Pred. No. 3.9e-67;
  Matches  183;  Conservative   26;  Mismatches   33;  Indels    3;  Gaps    1;

Qy        486 DQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARK 545
              : |||||||||||||||:||||||||||:||||||||||||||||||||||||||||||
Db          5 NSQDVTSNFLGAMWLISISFLSIGYGDMVPNTYCGKGVCLLTGIMGAGCTALVVAVVARK 64

Qy        546 LELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFL 605
              |||||||||||||||||||||:||||||||||||||:|||:|||||||||||||||||||
Db         65 LELTKAEKHVHNFMMDTQLTKRVKNAAANVLRETWLIYKNTKLVKKIDHAKVRKHQRKFL 124

Qy        606 QAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEH 665
              ||||||||||||||:|||||||||:| ||:|||:|::||:|||| ||:| :||:|||
Db        125 QAIHQLRSVKMEQRKLNDQANTLVDLAKTQNIMYDMISDLNERSEDFEKRIVTLETKLET 184

Qy        666 LTASFNSLPLLIADTLRQQQQQLLSAIIEARGVSVAVGTTHTPISDSPIGVSSTSFPTPY 725
              |  | ::|| ||: |:|||||:  : | :|:    |  | :  | |      :||  |
Db        185 LIGSIHALPGLISQTIRQQQRDFIEAQMESYDKHV---TYNAERSRSSARRRRSSFTAPP 241

Qy        726 TSSSS 730
              ||| |
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```
Db        242 TSSES 246


RESULT 30
ABO84996
ID   ABO84996 standard; protein; 438 AA.
XX
AC   ABO84996;
XX
DT   18-NOV-2004  (first entry)
XX
DE   Murine cancer-associated protein (CAP) MP07-102.
XX
KW   Mouse; cancer-associated protein; CAP; cancer; cytostatic.
XX
OS   Mus musculus.
XX
PN   WO2004058146-A2.
XX
PD   15-JUL-2004.
XX
PF   15-DEC-2003; 2003WO-US040081.
XX
PR   17-DEC-2002; 2002US-00322281.
XX
PA   (SAGR-) SAGRES DISCOVERY INC.
XX
PI   Morris DW,  Malandro MS;
XX
DR   WPI; 2004-499109/47.
DR   N-PSDB; ABD33519.
XX
PT   Novel human cancer associated protein encoded within open reading frame
PT   of cancer associated gene, useful as targets for diagnosing cancer.
XX
PS   Disclosure; SEQ ID NO 699; 182pp; English.
XX
CC   The invention relates to cancer-associated proteins (CAP) and the cancer-
CC   associated (CA) nucleic acids encoding them. The invention also relates
CC   to a method for treating cancers involving administering to a patient an
CC   inhibitor of CAP, and a method of screening for anticancer activity in a
CC   potential drug involving providing a cell that expresses a CA gene,
CC   contacting a tissue sample derived from a cancer cell with an anticancer
CC   drug candidate and monitoring the effect of the anticancer drug candidate
CC   on expression of the CA gene. The CAP proteins are useful for detecting
CC   cancer associated with expression of a CAP protein in a test cell sample
CC   and for screening for a bioactive agent capable of modulating the
CC   activity of a CAP protein. The CA nucleic acids are useful for diagnosing
CC   cancer, involving determining the expression of a CA nucleic acid in a
CC   tissue. This sequence represents a murine CAP of the invention. Note: The
CC   sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences
XX
SQ   Sequence 438 AA;

  Query Match             22.8%;  Score 861;  DB 8;  Length 438;
  Best Local Similarity   42.7%;  Pred. No. 7e-63;
  Matches  190;  Conservative   73;  Mismatches  156;  Indels   26;  Gaps    6;

Qy        250 ASSTTFPKANKRKNQNIGYKLG---HRRALFEKRKRLSDYALIFGMFGIVVMVIETELSW 306
              | |   || :      :   ||    |: | |: ||:: :||:    || :||:  |: |
Db          2 AGSWLSPKTSGAMGGELVTGLGALRRRKRLLEQEKRVAGWALVLAGTGIGLMVLHAEMLW 61

Qy        307 GLYSKDSMFSLALKCRISLSTIILLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYI 366
              |  |  :: | :|| |:|||  || ||: :| : ||||: ||   |||:|:|  ::  |
Db         62 FLGCKWVLYLLLVKCLITLSTAFLLCLIVVFHAKEVQLFMTDNGLRDWRVALTRRQVAQI 121

Qy        367 SLEMLVYTNHTIPGEYKFFWAARLAFSYTPSRAE------ADVDIILSIPMFLRLYLIAR 420
              ||:||   | :|      :   | :   : |:       : : :||: | |||||: |
Db        122 LLELLVCGVHPVP-----LRSPHCALAGEATDAQPWPGFLGEGEALLSLAMLLRLYLVPR 176

Qy        421 VMLLHSKLFTDASSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRV 480
```

```
                :|| | :  :|| |||||||:: |   || |  |   || :||  :: ||:  || : |
Db        177 AVLLRSGVLLNASYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSV 236

Qy        481 CERYHDQQDVTSNFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVA 540
               ||     : | :    :||| |||||:|||||:|| |  || ||| ||:||  ||||:||
Db        237 AER--QAVNATGHLTDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVA 294

Qy        541 VVARKLELTKAEKHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKH 600
               ||||||| ||||||||||||    | :| :|| :|:| |: ||||   :: |    |:|
Db        295 VVARKLEFNKAEKHVHNFMMDIHYAKEMKESAARLLQEAWMYYKHT---RRKDSRAARRH 351

Qy        601 QRKFLQAIHQLRSVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLE 660
               ||| | |||  | |::: ||| :| |::||:|||  :: ||   |:     |||:|  |
Db        352 QRKMLAAIHTFRQVRLKHRKLREQVNSMVDISKMHMILCDLQLGLSSSHRALEKRIDGLA 411

Qy        661 SKLEHLTASFNSLPLLIADTLRQQQ 685
               ||: ||        |:   |:|||
Db        412 GKLDALTE-------LLGTALQQQQ 429


RESULT 31
AAW98019
ID   AAW98019 standard; protein; 425 AA.
XX
AC   AAW98019;
XX
DT   21-JUN-1999  (first entry)
XX
DE   Mouse calcium activated potassium channel KCa4 orthologue.
XX
KW   Calcium activated potassium channel; KCa4; mouse; leukocyte.
XX
OS   Mus sp.
XX
PN   WO9903882-A2.
XX
PD   28-JAN-1999.
XX
PF   13-JUL-1998;   98WO-GB002058.
XX
PR   15-JUL-1997;   97GB-00014760.
PR   09-OCT-1997;   97GB-00021366.
XX
PA   (ZENE ) ZENECA LTD.
XX
PI   Aiyar J,  Logsdon NJ;
XX
DR   WPI; 1999-132158/11.
DR   N-PSDB; AAX24831.
XX
PT   New isolated leukocyte calcium activated potassium channel nucleic acids
PT   - used to develop products for treating e.g. inflammation, asthma,
PT   allergies, graft rejection, proliferative disorders, neurodegenerative
PT   diseases or autoimmune diseases.
XX
PS   Example 18; Page 102-103; 139pp; English.
XX
CC   The present sequence is the murine orthologue of a novel human calcium
CC   activated potassium channel (CAPC) designated hKCa4 (see AAW98017). The
CC   sequence was deduced from a full-length cDNA clone (see AAX24831)
CC   amplified from mouse erythroleukaemic cell line MEL-C88 cDNA. The
CC   invention also provides expression vectors, antisense molecules, host
CC   cells, purified polypeptides and polynucleotides, antibodies and
CC   (ant)agonists of CAPC function. Compounds that modulate CAPC activity can
CC   be used in treating diseases which are manifested by dysfunctional
CC   leukocytes
XX
SQ   Sequence 425 AA;

  Query Match             22.7%;  Score 859.5;  DB 2;  Length 425;
  Best Local Similarity   43.8%;  Pred. No. 9e-63;
  Matches  185;  Conservative   71;  Mismatches  143;  Indels   23;  Gaps    5;

Qy        270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
              |  |: | |: ||:: :||:    || :||:  |: | |  |  :: | :|| |:|||
Db         12 LRRRKRLLEQEKRVAGWALVLAGTGIGLMVLHAEMLWFLGCKWVLYLLLVKCLITLSTAF 71

Qy        330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAAR 389
              || ||: :| : ||||: ||   |||:|:|  ::  | ||:||   | :|       :
Db         72 LLCLIVVFHAKEVQLFMTDNGLRDWRVALTRRQVAQILLELLVCGVHPVP-----LRSPH 126

Qy        390 LAFSYTPSRAE------ADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
               | :   : |:       : : :||: | |||||: | :|| | :  :|| |||||||::
Db        127 CALAGEATDAQPWPGFLGEGEALLSLAMLLRLYLVPRAVLLRSGVLLNASYRSIGALNQV 186

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
               |   || | |   || :||  :: ||:  || : | ||     : | :    :||| |
Db        187 RFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATGHLTDTLWLIPI 244

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              |||:|||||:|| |  || ||| ||:||  ||||:|||||||||  ||||||||||||
Db        245 TFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAEKHVHNFMMDIH 304

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
               | :| :|| :|:| |: ||||   :: |    |:|||| | |||  | |::: ||| :
Db        305 YAKEMKESAARLLQEAWMYYKHT---RRKDSRAARRHQRKMLAAIHTFRQVRLKHRKLRE 361

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              | |::||:|||  :: ||   |:     |||:|  |  ||: ||        |:   |:|
Db        362 QVNSMVDISKMHMILCDLQLGLSSSHRALEKRIDGLAGKLDALTE-------LLGTALQQ 414

Qy        684 QQ 685
              ||
Db        415 QQ 416


RESULT 32
ABB99106
ID   ABB99106 standard; protein; 425 AA.
XX
AC   ABB99106;
XX
DT   04-NOV-2002  (first entry)
XX
DE   Mouse intermediate-conductance potassium channel protein mIK1.
XX
KW   Mouse; intermediate-conductance potassium channel; dermatological;
KW   antiinflammatory; keratolytic; vulnerary; antipsoriatic; atopic eczema;
KW   contact dermatitis; vitiligo; skin; hyperkeratosis; actinic keratose;
KW   hypertrophic scar; keloids; lentigo; aged skin; ulcer; psoriasis; mIK1.
XX
OS   Mus musculus.
XX
PN   WO200253171-A2.
XX
PD   11-JUL-2002.
XX
PF   27-DEC-2001; 2001WO-EP015317.
XX
PR   28-DEC-2000; 2000DE-01065475.
PR   20-MAR-2001; 2001US-0277453P.
XX
PA   (SWIT-) SWITCH BIOTECH AG.
PA   (UYLU-) UNIV LUDWIG MAXIMILIANS.
XX
PI   Goppelt A,  Alzheimer C,  Koegel H;
XX
DR   WPI; 2002-643295/69.
DR   N-PSDB; ABQ78933.
XX
PT   Use of intermediate-conductance potassium channel proteins for the
PT   diagnosis, prevention and treatment of disorders associated with
PT   disturbed keratinocyte activity, especially psoriasis.
XX
PS   Claim 1; Page 118-119; 121pp; German.
XX
```

```
CC   The invention relates to a novel use of intermediate-conductance
CC   potassium channel proteins. The proteins of the invention have
CC   dermatological, antiinflammatory, keratolytic, vulnerary, and
CC   antipsoriatic activity. The method is used especially in the field of
CC   damaged skin, e.g. contact dermatitis, atopic eczema, vitiligo,
CC   hyperkeratosis, actinic keratosis, hypertrophic scars, keloids, lentigo,
CC   aged skin, ulcers and especially psoriasis. The sequence represents the
CC   potassium channel protein mIK1 of the invention
XX
SQ   Sequence 425 AA;

  Query Match             22.7%;  Score 859.5;  DB 5;  Length 425;
  Best Local Similarity   43.8%;  Pred. No. 9e-63;
  Matches  185;  Conservative   71;  Mismatches  143;  Indels   23;  Gaps    5;

Qy        270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
              |  |: | |: ||:: :||:    || :||:  |: | |  |  :: | :|| |:|||
Db         12 LRRRKRLLEQEKRVAGWALVLAGTGIGLMVLHAEMLWFLGCKWVLYLLLVKCLITLSTAF 71

Qy        330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAAR 389
              || ||: :| : ||||: ||   |||:|:|  ::  | ||:||   | :|       :
Db         72 LLCLIVVFHAKEVQLFMTDNGLRDWRVALTRRQVAQILLELLVCGVHPVP-----LRSPH 126

Qy        390 LAFSYTPSRAE------ADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
              | :   : |:       : : :||: | |||||: | :|| | :  :|| |||||||::
Db        127 CALAGEATDAQPWPGFLGEGEALLSLAMLLRLYLVPRAVLLRSGVLLNASYRSIGALNQV 186

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
              |   || |  |   || :||  :: ||:  || : | ||     : | :    :||| |
Db        187 RFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATGHLTDTLWLIPI 244

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              |||:|||||:|| |  || ||| ||:||  ||||:||||||||  ||||||||||||
Db        245 TFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAEKHVHNFMMDIH 304

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
              | :| :|| :|:| |: ||||   :: |    |:|||| | |||  | |::: ||| :
Db        305 YAKEMKESAARLLQEAWMYYKHT---RRKDSRAARRHQRKMLAAIHTFRQVRLKHRKLRE 361

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              | |::||:|||  :: ||   |:     |||:|  | ||: ||         |:   |:|
Db        362 QVNSMVDISKMHMILCDLQLGLSSSHRALEKRIDGLAGKLDALTE-------LLGTALQQ 414

Qy        684 QQ 685
              ||
Db        415 QQ 416


RESULT 33
ADZ13495
ID   ADZ13495 standard; protein; 425 AA.
XX
AC   ADZ13495;
XX
DT   16-JUN-2005  (first entry)
XX
DE   Murine cancer-associated protein #115.
XX
KW   Diagnosis; DNA microarray; microarray; biochip; cancer; neoplasm;
KW   cytostatic.
XX
OS   Mus sp.
XX
PN   WO2005031001-A2.
XX
PD   07-APR-2005.
XX
PF   23-SEP-2004; 2004WO-US031617.
XX
PR   23-SEP-2003; 2003US-00669920.
XX
PA   (CHIR ) CHIRON CORP.
XX
PI   Morris DW,  Malandro MS;
XX
DR   WPI; 2005-273395/28.
DR   N-PSDB; ADZ13494.
XX
PT   Nucleic acid array useful for detecting cancer associated nucleic acid,
PT   comprises two or more nucleic acid probes.
XX
PS   Disclosure; SEQ ID NO 1015; 198pp; English.
XX
CC   The invention relates to a nucleic acid array for detecting a cancer
CC   associated (CA) nucleic acid, comprising two or more nucleic acid probes.
CC   The invention also relates to a peptide array comprising two or more
CC   isolated polypeptides encoded by a CA nucleic acid sequence, a compound
CC   that binds to a polypeptide, an isolated antibody or its fragment which
CC   binds to a polypeptide, which is prepared by immunizing a host animal
CC   with a composition comprising the polypeptide or its antigen binding
CC   fragment and collecting cells from the host expressing antibodies against
CC   the antigen or its antigen binding fragment, a composition comprising the
CC   antibody and a carrier, a method of screening for anticancer activity, a
CC   method of detecting a CA nucleic acid, a method of diagnosing cancer, a
CC   method of treating cancer and a method of inhibiting expression of a CA
CC   nucleic acid in a cell. The CA nucleic acids are useful for detecting CA
CC   nucleic acids. The antibody is useful for detecting the presence or
CC   absence of cancer cells in an individual which involves contacting cells
CC   from the individual with the antibody and detecting a complex of a CA
CC   protein from the cancer cells and the antibody, where the detection of
CC   the complex correlates with the presence of cancer cells in the
CC   individual. The composition is useful for inhibiting growth of cancer
CC   cells in an individual or for delivering a therapeutic agent to cancer
CC   cells in an individual. The invention is also useful for diagnosing
CC   cancer, for treating cancer and for inhibiting expression of a CA gene in
CC   a cell. This sequence represents a murine cancer-associated protein of
CC   the invention.
XX
SQ   Sequence 425 AA;

  Query Match             22.7%;  Score 859.5;  DB 9;  Length 425;
  Best Local Similarity   43.8%;  Pred. No. 9e-63;
  Matches  185;  Conservative   71;  Mismatches  143;  Indels   23;  Gaps    5;

Qy        270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
              |  |: | |: ||:: :||:    || :||:  |: | |  |  :: | :|| |:|||
Db         12 LRRRKRLLEQEKRVAGWALVLAGTGIGLMVLHAEMLWFLGCKWVLYLLLVKCLITLSTAF 71

Qy        330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAAR 389
              || ||: :| : ||||: ||   |||:|:|  ::  | ||:||   | :|       :
Db         72 LLCLIVVFHAKEVQLFMTDNGLRDWRVALTRRQVAQILLELLVCGVHPVP-----LRSPH 126

Qy        390 LAFSYTPSRAE------ADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
              | :   : |:       : : :||: | |||||: | :|| | :  :|| |||||||::
Db        127 CALAGEATDAQPWPGFLGEGEALLSLAMLLRLYLVPRAVLLRSGVLLNASYRSIGALNQV 186

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
              |   || |  |   || :||  :: ||:  || : | ||     : | :    :||| |
Db        187 RFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATGHLTDTLWLIPI 244

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              |||:|||||:|| |  || ||| ||:||  ||||:||||||||  ||||||||||||
Db        245 TFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAEKHVHNFMMDIH 304

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
              | :| :|| :|:| |: ||||   :: |    |:|||| | |||  | |::: ||| :
Db        305 YAKEMKESAARLLQEAWMYYKHT---RRKDSRAARRHQRKMLAAIHTFRQVRLKHRKLRE 361

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              | |::||:|||  :: ||   |:     |||:|  | ||: ||         |:   |:|
Db        362 QVNSMVDISKMHMILCDLQLGLSSSHRALEKRIDGLAGKLDALTE-------LLGTALQQ 414

Qy        684 QQ 685
              ||
Db        415 QQ 416
```

```
RESULT 34
AEA55059
ID   AEA55059 standard; protein; 425 AA.
XX
AC   AEA55059;
XX
DT   11-AUG-2005  (first entry)
XX
DE   Mouse calcium-activated potassium channel protein 4, SEQ ID NO: 35.
XX
KW   Plasma membrane; diagnosis; therapeutic; cancer; cytostatic; neoplasm;
KW   potassium channel protein 4.
XX
OS   Mus musculus.
XX
PN   WO2005052182-A2.
XX
PD   09-JUN-2005.
XX
PF   25-NOV-2004; 2004WO-IL001085.
XX
PR   26-NOV-2003; 2003US-0524885P.
XX
PA   (YISS ) YISSUM RES DEV CO HEBREW UNIV JERUSALEM.
XX
PI   Linial M,  Inberg A,  Bledi Y;
XX
DR   WPI; 2005-418017/42.
DR   SWISSPROT; O89109.
XX
PT   Characterizing proteins present in a plasma membrane of a cell, useful in
PT   identifying diagnostic markers and potential drugs, comprises subjecting
PT   a cell to a protease treatment.
XX
PS   Claim 25; SEQ ID NO 35; 196pp; English.
XX
CC   The present invention relates to a method of characterizing proteins
CC   present in the plasma membrane (PM) of live cells. The proteins of the
CC   invention are useful in identifying diagnostic markers and potential
CC   drugs. The invention is useful for identifying drugs for diagnosing and
CC   treating disorders such as cancer which are associated with abnormal
CC   representation of cell surface proteins. The present sequence is mouse
CC   intermediate conductance calcium-activated potassium channel protein 4
CC   (SK4) protein.
XX
SQ   Sequence 425 AA;

  Query Match             22.7%;  Score 859.5;  DB 9;  Length 425;
  Best Local Similarity   43.8%;  Pred. No. 9e-63;
  Matches  185;  Conservative   71;  Mismatches  143;  Indels   23;  Gaps    5;

Qy        270 LGHRRALPEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
              |  |: | |: ||:: :||:    || :||:  |: | |  |  :: | :|| |:|||
Db         12 LRRRKRLLEQEKRVAGWALVLAGTGIGLMVLHAEMLWFLGCKWVLYLLLVKCLITLSTAF 71

Qy        330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNHTIPGEYKFFWAAR 389
              || ||: :| : ||||: ||   |||:|:|  ::  | ||:||   | :|       :
Db         72 LLCLIVVFHAKEVQLFMTDNGLRDWRVALTRRQVAQILLELLVCGVHPVP-----LRSPH 126

Qy        390 LAFSYTPSRAE------ADVDIILSIPMFLRLYLIARVMLLHSKLFTDASSRSIGALNKI 443
                | :   : |:       : : :||: | |||||: | :|| | :  :|| |||||||::
Db        127 CALAGEATDAQPWPGFLGEGEALLSLAMLLRLYLVPRAVLLRSGVLLNASYRSIGALNQV 186

Qy        444 NFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTSNFLGAMWLISI 503
                |   || |  |   || :||  :: ||:  || : | ||     : | :    :||| |
Db        187 RFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATGHLTDTLWLIPI 244

Qy        504 TFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAEKHVHNFMMDTQ 563
              |||:|||||:|| |  || ||| ||:||  ||||:||||||||  ||||||||||||
Db        245 TFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAEKHVHNFMMDIH 304

Qy        564 LTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLRSVKMEQRKLSD 623
                | :| :|| :|:| |: |||   :: |    |:|||| | |||  | |::: ||| :
Db        305 YAKEMKESAARLLQEAWMYYKHT---RRKDSRAARRHQRKMLAAIHTFRQVRLKHRKLRE 361

Qy        624 QANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLTASFNSLPLLIADTLRQ 683
              | |::||:|||  :: ||   |:     |||:|  |  ||: ||        |:   |:|
Db        362 QVNSMVDISKMHMILCDLQLGLSSSHRALEKRIDGLAGKLDALTE-------LLGTALQQ 414

Qy        684 QQ 685
              ||
Db        415 QQ 416


RESULT 35
AAW98017
ID   AAW98017 standard; protein; 427 AA.
XX
AC   AAW98017;
XX
DT   21-JUN-1999  (first entry)
XX
DE   Human calcium activated potassium channel hKCa4.
XX
KW   Calcium activated potassium channel; hKCa4; human; leukocyte; T cell;
KW   T lymphocyte; inflammation; asthma; allergy; graft rejection;
KW   proliferative disorder; anaemia; neurodegenerative disease;
KW   autoimmune disease; multiple sclerosis; rheumatoid arthritis;
KW   diabetes mellitus; multiple sclerosis; myasthenia gravis;
KW   systemic lupus erythematosus; Sjogren's syndrome;
KW   mixed connective tissue disease; experimental allergic encephalomyelitis;
KW   diagnosis; therapy.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          25. .42
FT                   /note= "transmembrane region S1"
FT   Region          64. .79
FT                   /note= "transmembrane region S2"
FT   Modified-site   101
FT                   /note= "O-phosphorylated"
FT   Region          105. .120
FT                   /note= "transmembrane region S3"
FT   Region          150. .174
FT                   /note= "transmembrane region S4"
FT   Modified-site   178
FT                   /note= "O-phosphorylated"
FT   Region          205. .223
FT                   /note= "transmembrane region S5"
FT   Modified-site   232
FT                   /note= "N-glycosylated"
FT   Region          245. .260
FT                   /note= "pore region"
FT   Region          265. .285
FT                   /note= "transmembrane region S6"
FT   Modified-site   329
FT                   /note= "O-phosphorylated"
FT   Modified-site   334
FT                   /note= "O-phosphorylated"
FT   Modified-site   367
FT                   /note= "O-phosphorylated"
FT   Modified-site   388
FT                   /note= "O-phosphorylated"
XX
PN   WO9903882-A2.
XX
PD   28-JAN-1999.
XX
PF   13-JUL-1998;   98WO-GB002058.
XX
PR   15-JUL-1997;   97GB-00014760.
PR   09-OCT-1997;   97GB-00021366.
XX
PA   (ZENE ) ZENECA LTD.
```

XX
PI Aiyar J, Logsdon NJ;
XX
DR WPI; 1999-132158/11.
DR N-PSDB; AAX24825, AAX24826.
XX
PT New isolated leukocyte calcium activated potassium channel nucleic acids
PT - used to develop products for treating e.g. inflammation, asthma,
PT allergies, graft rejection, proliferative disorders, neurodegenerative
PT diseases or autoimmune diseases.
XX
PS Claim 6; Fig 15; 139pp; English.
XX
CC The present sequence is a novel human calcium activated potassium channel
CC (CAPC) designated hKCa4. The sequence was deduced from the nucleotide
CC sequence (see AAX24825) of a cDNA clone obtained from a human lymph node
CC library. Homology to brain CAPCs hSK1, rSK2 and rSK3 is 41%. Transcripts
CC are detected in placenta, prostate, thymus, spleen, colon and many cell
CC lines of haematopoietic origin. Calmodulin is an interaction partner for
CC hKCa4 and is possibly the calcium sensor. hKCa4 is expressed at a high
CC levels in activated T cells. The invention also provides expression
CC vectors, antisense molecules, host cells, purified polypeptides and
CC polynucleotides, antibodies and (ant)agonists of CAPC function. Compounds
CC that modulate CAPC activity can be used in treating diseases which are
CC manifested by dysfunctional leukocytes such as acute and chronic
CC inflammation, asthma, allergies, graft rejection, proliferative
CC disorders, anaemias, neurodegenerative diseases with immunological
CC components, as well as autoimmune disease including rheumatoid arthritis,
CC type-1 diabetes mellitus, multiple sclerosis, myasthenia gravis, systemic
CC lupus erythematosus, Sjogren's syndrome, mixed connective tissue disease,
CC and experimental allergic encephalomyelitis. The products can also be
CC used for gene therapy, detection and diagnosis
XX
SQ Sequence 427 AA;

Query Match 22.4%; Score 848; DB 2; Length 427;
Best Local Similarity 44.6%; Pred. No. 8.3e-62;
Matches 185; Conservative 65; Mismatches 129; Indels 36; Gaps 6;

Qy 270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
Db 12 LRRRKRLLEQEKSLAGWALVLAGTGIGLMVLHAEMLWFGGCSWALYLFLVKCTISISTFL 71

Qy 330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNH---------- 376
Db 72 LLCLIVAFHAKEVQLFMTDNGLRDWRVALTGRQAAQIVLELVVCGLHPAPVRGPPCVQDL 131

Qy 377 ----TIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDA 432
Db 132 GAPLTSPQPWPGFL----------GQGEA----LLSLAMLLRLYLVPRAVLLRSGVLLNA 177

Qy 433 SSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTS 492
Db 178 SYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATG 235

Qy 493 NFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAE 552
Db 236 HLSDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAE 295

Qy 553 KHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLR 612
Db 296 KHVHNFMMDIQYTKEMKESAARVLQEAWMFYKHTR--RKESHA-ARRHQRKLLAAINAFR 352

Qy 613 SVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLT 667
Db 353 QVRLKHRKLREQVNSMVDISKMHMILYDLQQNLSSSHRALEKQIDTLAGKLDALT 407

RESULT 36
AAY24925
ID AAY24925 standard; protein; 427 AA.
XX
AC AAY24925;

XX
DT 26-AUG-1999 (first entry)
XX
DE Human IKCa.
XX
KW Human; IKCa; ion channel blocking activity; immune disorder;
KW calcium ion activated potassium channel; immune dysfunction;
KW Ca2+ activated potassium channel.
XX
OS Homo sapiens.
XX
PN WO9925347-A2.
XX
PD 27-MAY-1999.
XX
PF 13-NOV-1998; 98WO-DK000490.
XX
PR 14-NOV-1997; 97DK-00001298.
PR 19-MAR-1998; 98DK-00000386.
XX
PA (NEUR-) NEUROSEARCH AS.
XX
PI Olesen S, Jensen BS, Jorgensen TD, Strobaek D, Christophersen P;
PI Odum N;
XX
DR WPI; 1999-394771/33.
DR N-PSDB; AAX83631.
XX
PT Intermediate conductance calcium ion activated potassium channel
PT inhibitors for treatment of immune dysfunction.
XX
PS Example 1; Page 31-32; 47pp; English.
XX
CC The present invention describes the use of chemical compounds with
CC intermediate conductance Ca2+ activated potassium channel (IKCa)
CC inhibitory activity for the manufacture of medicaments for the treatment
CC or alleviation of diseases, disorders or conditions relating to immune
CC dysfunction. The chemical compounds can be used as IKCa inhibitors in
CC manufacture of medicaments to treat and alleviate diseases, disorders or
CC conditions relating to immune dysfunction. The can also be used to screen
CC chemical compounds for IKCa inhibitory activity for ion channels
CC endogenous to cells such as human epithelial-like cell lines (HeLa cells
CC e.g. epitheloid carcinoma, cervix, human), T- or B-lymphocytes,
CC epithelial cells, endothelial cells or blood cells, or exogenous to cells
CC such as human embryonic kidney (HEK) cells, HEK 293, Chinese hamster
CC ovary cells or Xenopus laevis oocyte cells. The present sequence
CC represents human IKCa
XX
SQ Sequence 427 AA;

Query Match 22.4%; Score 848; DB 2; Length 427;
Best Local Similarity 44.6%; Pred. No. 8.3e-62;
Matches 185; Conservative 65; Mismatches 129; Indels 36; Gaps 6;

Qy 270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
Db 12 LRRRKRLLEQEKSLAGWALVLAGTGIGLMVLHAEMLWFGGCSWALYLFLVKCTISISTFL 71

Qy 330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNH---------- 376
Db 72 LLCLIVAFHAKEVQLFMTDNGLRDWRVALTGRQAAQIVLELVVCGLHPAPVRGPPCVQDL 131

Qy 377 ----TIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDA 432
Db 132 GAPLTSPQPWPGFL----------GQGEA----LLSLAMLLRLYLVPRAVLLRSGVLLNA 177

Qy 433 SSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTS 492
Db 178 SYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATG 235

Qy 493 NFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAE 552
Db 236 HLSDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAE 295

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Qy        553 KHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLR 612
              |||||||||| | || :| :|| ||:| |: ||||:  :|  ||  |:|||| | ||:  |
Db        296 KHVHNFMMDIQYTKEMKESAARVLQEAWMFYKHTR--RKESHA-ARRHQRKLLAAINAFR 352

Qy        613 SVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLT 667
               |::: ||| :| |::||:|||  ::|||   |:      |||| :|  ||: ||
Db        353 QVRLKHRKLREQVNSMVDISKMHMILYDLQQNLSSSHRALEKQIDTLAGKLDALT 407


RESULT 37
ABB99105
ID   ABB99105 standard; protein; 427 AA.
XX
AC   ABB99105;
XX
DT   04-NOV-2002  (first entry)
XX
DE   Human intermediate-conductance potassium channel protein hIK1.
XX
KW   Human; intermediate-conductance potassium channel; dermatological;
KW   antiinflammatory; keratolytic; vulnerary; antipsoriatic; atopic eczema;
KW   contact dermatitis; vitiligo; skin; hyperkeratosis; actinic keratose;
KW   hypertrophic scar; keloids; lentigo; aged skin; ulcer; psoriasis; hIK1.
XX
OS   Homo sapiens.
XX
PN   WO200253171-A2.
XX
PD   11-JUL-2002.
XX
PF   27-DEC-2001; 2001WO-EP015317.
XX
PR   28-DEC-2000; 2000DE-01065475.
PR   20-MAR-2001; 2001US-0277453P.
XX
PA   (SWIT-) SWITCH BIOTECH AG.
PA   (UYLU-) UNIV LUDWIG MAXIMILIANS.
XX
PI   Goppelt A,  Alzheimer C,  Koegel H;
XX
DR   WPI; 2002-643295/69.
DR   N-PSDB; ABQ78932.
XX
PT   Use of intermediate-conductance potassium channel proteins for the
PT   diagnosis, prevention and treatment of disorders associated with
PT   disturbed keratinocyte activity, especially psoriasis.
XX
PS   Claim 1; Page 117-118; 121pp; German.
XX
CC   The invention relates to a novel use of intermediate-conductance
CC   potassium channel proteins. The proteins of the invention have
CC   dermatological, antiinflammatory, keratolytic, vulnerary, and
CC   antipsoriatic activity. The method is used especially in the field of
CC   damaged skin, e.g. contact dermatitis, atopic eczema, vitiligo,
CC   hyperkeratosis, actinic keratosis, hypertrophic scars, keloids, lentigo,
CC   aged skin, ulcers and especially psoriasis. The sequence represents the
CC   potassium channel protein hIK1 of the invention
XX
SQ   Sequence 427 AA;

  Query Match             22.4%;  Score 848;  DB 5;  Length 427;
  Best Local Similarity   44.6%;  Pred. No. 8.3e-62;
  Matches  185;  Conservative   65;  Mismatches  129;  Indels   36;  Gaps    6;

Qy        270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
              |  |: | |: | |: :||:    || :||:  |: |      :::   :|| ||:|| :
Db         12 LRRRKRLLEQEKSLAGWALVLAGTGIGLMVLHAEMLWFGGCSWALYLFLVKCTISISTFL 71

Qy        330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNH------------ 376
              || ||:|:| : ||||: ||   |||:|:|  :   | ||::|   |
Db         72 LLCLIVAFHAKEVQLFMTDNGLRDWRVALTGRQAAQIVLELVVCGLHPAPVRGPPCVQDL 131

Qy        377 ----TIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDA 432
                  | |  :  |           : ||    :||: | |||||: | :|| | :  :|
Db        132 GAPLTSPQPWPGFL----------GQGEA----LLSLAMLLRLYLVPRAVLLRSGVLLNA 177

Qy        433 SSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTS 492
              | |||||||:: |   || | |   || :||  :: ||:  || : | ||     : |
Db        178 SYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATG 235

Qy        493 NFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAE 552
              :   :||| ||||:|||||:|| |  || ||| ||:||  ||||:|||||||||  |||
Db        236 HLSDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAE 295

Qy        553 KHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLR 612
              |||||||||| | || :| :|| ||:| |: ||||:  :|  ||  |:|||| | ||:  |
Db        296 KHVHNFMMDIQYTKEMKESAARVLQEAWMFYKHTR--RKESHA-ARRHQRKLLAAINAFR 352

Qy        613 SVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLT 667
               |::: ||| :| |::||:|||  ::|||   |:      |||| :|  ||: ||
Db        353 QVRLKHRKLREQVNSMVDISKMHMILYDLQQNLSSSHRALEKQIDTLAGKLDALT 407


RESULT 38
AAE23217
ID   AAE23217 standard; protein; 427 AA.
XX
AC   AAE23217;
XX
DT   27-AUG-2002  (first entry)
XX
DE   Human IKca channel protein.
XX
KW   Human; sexual dysfunction; SD; male erectile dysfunction; MED;
KW   intermediate-conductance calcium-activated potassium channel;
KW   IKca channel; SK4 channel; corpus cavernosal smooth muscle; CCSM;
KW   sexual genitalia; therapy; vasotropic.
XX
OS   Homo sapiens.
XX
PN   WO200217963-A2.
XX
PD   07-MAR-2002.
XX
PF   24-AUG-2001; 2001WO-IB001525.
XX
PR   01-SEP-2000; 2000GB-00021487.
XX
PA   (PFIZ ) PFIZER LTD.
PA   (PFIZ ) PFIZER INC.
XX
PI   Maw GN,  Wayman CP;
XX
DR   WPI; 2002-425678/45.
DR   N-PSDB; AAD37390.
XX
PT   Treating individual with sexual dysfunction, e.g. male erectile
PT   dysfunction comprises administering agent that modulates intermediate-
PT   conductance calcium-activated potassium channel activity in sexual
PT   genitalia of individual.
XX
PS   Example; Fig 8; 120pp; English.
XX
CC   The invention relates to a method of treating an individual with sexual
CC   dysfunction (SD) comprises delivering to the individual, an agent that is
CC   capable of modulating an intermediate-conductance calcium-activated
CC   potassium (IKca) channel (also referred as SK4 channels) activity in the
CC   sexual genitalia of the individual. The method is useful for treating an
CC   individual with sexual dysfunction by administering an agent that is
CC   capable of modulating IKca channel activity such that relaxation of
CC   corpus cavernosal smooth muscle (CCSM) tone is achieved, in sexual
CC   genitalia of individual. Pharmaceutical composition is useful for
CC   treating sexual dysfunction, preferably male SD, e.g., male erectile
CC   dysfunction (MED). IKca channel is useful for preparing medicament to
CC   prevent and/or treat SD, and to identify agents capable of mediating
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CC relaxation of CCSM tone, preferably to screen for agents capable of
CC modulating IKca channel activity, where the modulation enhances nitrergic
CC or nitric oxide-mediated relaxation of CCSM tone. The method is useful in
CC a process which involves identifying one or more agents modulating IKca
CC activity. The present sequence is human IKca channel protein
XX
SQ Sequence 427 AA;

Query Match 22.4%; Score 848; DB 5; Length 427;
Best Local Similarity 44.6%; Pred. No. 8.3e-62;
Matches 185; Conservative 65; Mismatches 129; Indels 36; Gaps 6;

Qy 270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
Db 12 LRRRKRLLEQEKSLAGWALVLAGTGIGLMVLHAEMLWFGGCSWALYLFLVKCTISISTFL 71

Qy 330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNH---------- 376
Db 72 LLCLIVAFHAKEVQLFMTDNGLRDWRVALTGRQAAQIVLELVVCGLHPAPVRGPPCVQDL 131

Qy 377 ----TIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDA 432
Db 132 GAPLTSPQPWPGFL----------GQGEA----LLSLAMLLRLYLVPRAVLLRSGVLLNA 177

Qy 433 SSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTS 492
Db 178 SYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATG 235

Qy 493 NFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAE 552
Db 236 HLSDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAE 295

Qy 553 KHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLR 612
Db 296 KHVHNFMMDIQYTKEMKESAARVLQEAWMFYKHTR--RKESHA-ARRHQRKLLAAINAFR 352

Qy 613 SVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLT 667
Db 353 QVRLKHRKLREQVNSMVDISKMHMILYDLQQNLSSSHRALEKQIDTLAGKLDALT 407

RESULT 39
ADB75368
ID ADB75368 standard; protein; 427 AA.
XX
AC ADB75368;
XX
DT 04-DEC-2003 (first entry)
XX
DE Prostate cancer marker protein.
XX
KW Prostate; cancer; cytostatic; gene therapy; marker.
XX
OS Homo sapiens.
XX
PN WO2003009814-A2.
XX
PD 06-FEB-2003.
XX
PF 25-JUL-2002; 2002WO-US023913.
XX
PR 25-JUL-2001; 2001US-0307982P.
PR 22-AUG-2001; 2001US-0314356P.
PR 25-SEP-2001; 2001US-0325020P.
PR 12-DEC-2001; 2001US-0341746P.
PR 05-MAR-2002; 2002US-0362158P.
XX
PA (MILL-) MILLENNIUM PHARM INC.
XX
PI Schlegel R, Monahan JE, Endege WO, Gannavarapu M, Gorbatcheva B;
PI Hoersh S, Kamatkar S, Wonsey AM, Glatt K, Zhao X, Anderson D;
XX
DR WPI; 2003-248033/24.
XX
PT New nucleic acid molecule, useful for diagnosing or treating prostate
PT cancer.
XX
PS Disclosure; SEQ ID NO 192; 99pp; English.
XX
CC The invention relates to newly discovered cancer markers associated with
CC the cancerous state of prostate cells. Also disclosed is a method of
CC assessing whether a patient is afflicted with prostate cancer. The method
CC of the invention involves assessing whether a patient is afflicted with
CC prostate cancer by comparing the level of expression of a marker in a
CC patient sample and the normal level of expression of the marker in a
CC control non-prostate cancer sample, where a significant increase in the
CC level of expression of the marker in the patient sample and the normal
CC level indicates that the patient is afflicted with prostate cancer.
CC Nucleic acids of the invention are useful for diagnosing or treating
CC prostate cancer, and may be useful in gene therapy. Sequences given in
CC ADB75177-ADB75631 represent marker cDNA and proteins. Note: The sequence
CC data for this patent did not form part of the printed specification, but
CC was obtained in electronic format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 427 AA;

Query Match 22.4%; Score 848; DB 7; Length 427;
Best Local Similarity 44.6%; Pred. No. 8.3e-62;
Matches 185; Conservative 65; Mismatches 129; Indels 36; Gaps 6;

Qy 270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
Db 12 LRRRKRLLEQEKSLAGWALVLAGTGIGLMVLHAEMLWFGGCSWALYLFLVKCTISISTFL 71

Qy 330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNH---------- 376
Db 72 LLCLIVAFHAKEVQLFMTDNGLRDWRVALTGRQAAQIVLELVVCGLHPAPVRGPPCVQDL 131

Qy 377 ----TIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDA 432
Db 132 GAPLTSPQPWPGFL----------GQGEA----LLSLAMLLRLYLVPRAVLLRSGVLLNA 177

Qy 433 SSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTS 492
Db 178 SYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATG 235

Qy 493 NFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAE 552
Db 236 HLSDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAE 295

Qy 553 KHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLR 612
Db 296 KHVHNFMMDIQYTKEMKESAARVLQEAWMFYKHTR--RKESHA-ARRHQRKLLAAINAFR 352

Qy 613 SVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLT 667
Db 353 QVRLKHRKLREQVNSMVDISKMHMILYDLQQNLSSSHRALEKQIDTLAGKLDALT 407

RESULT 40
ADK52570
ID ADK52570 standard; protein; 427 AA.
XX
AC ADK52570;
XX
DT 06-MAY-2004 (first entry)
XX
DE Hematological disorder associated Gene ID 12212 encoded protein.
XX
KW cytostatic; antianemic; antisickling; virucide; hemostatic; nephrotropic;
KW cytostatic; thrombolytic; antiparasitic; gene therapy;
KW hematologic disorder; cancer; Sickle Cell Anemia;
KW Infectious Mononucleosis; Leukemia; Polycythemia Vera; Lymphoma;
KW Retinoblastoma; Hemophilia; Thrombosis; Herpes; Thalassemia;
KW transfusion reaction; Erythroblastosis; mechanical trauma;

```
KW   micro-angiopathic hemolytic anemia; parasite infection.
XX
OS   Homo sapiens.
XX
PN   WO2003065871-A2.
XX
PD   14-AUG-2003.
XX
PF   28-JAN-2003; 2003WO-US002484.
XX
PR   04-FEB-2002; 2002US-0354333P.
PR   28-FEB-2002; 2002US-0360258P.
PR   15-MAR-2002; 2002US-0364476P.
PR   26-APR-2002; 2002US-0375626P.
PR   06-JUN-2002; 2002US-0386494P.
PR   24-JUN-2002; 2002US-0390965P.
PR   28-JUN-2002; 2002US-0392480P.
PR   03-JUL-2002; 2002US-0394128P.
PR   31-JUL-2002; 2002US-0399783P.
PR   13-AUG-2002; 2002US-0403221P.
PR   30-AUG-2002; 2002US-0407045P.
PR   25-NOV-2002; 2002US-0429048P.
XX
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Carroll JM, Healy A, Weich NS, Kelly LM;
XX
DR   WPI; 2003-731464/69.
DR   N-PSDB; ADK52569.
XX
PT   Identifying a compound capable of treating a hematologic disorder (e.g.
PT   anemia or leukemia) comprises assaying the ability of the compound to
PT   modulate the expression or activity of e.g. 131,148, 199 or 12303
PT   polypeptide or nucleic acid.
XX
PS   Disclosure; SEQ ID NO 28; 232pp; English.
XX
CC   The invention relates to a method of identifying a compound capable of
CC   treating a hematologic disorder comprises assaying the ability of the
CC   compound to modulate 131,148, 199, 12303, 13906, 15513, 17822, 302, 5677,
CC   194, 14393, 28059, 7366, 12212, 1981, 261, 12416, 270, 1410, 137, 1871,
CC   13051, 1847, 1849, 15402, 340, 10217, 837, 1761, 8990 or 13249 nucleic
CC   acid expression or polypeptide activity, thus, identifying a compound
CC   capable of treating a hematologic disorder. The methods are useful in
CC   diagnosing, preventing and treating hematological disorders, such as
CC   cancer, Sickle Cell Anemia, Infectious Mononucleosis, Leukemia,
CC   Polycythemia Vera, Lymphoma, Retinoblastoma, Hemophilia, disorders
CC   associated with an increased risk of Thrombosis, Herpes, Thalassemia,
CC   antibody-mediated disorders such as transfusion reactions and
CC   Erythroblastosis, mechanical trauma to red blood cells such as micro-
CC   angiopathic hemolytic anemias, infections by parasites or chemical
CC   injuries. The methods may also be used for identifying compounds that
CC   modulate hematological disorders. This sequence corresponds to the
CC   protein encoded by one of the genes modulated by the compounds.
XX
SQ   Sequence 427 AA;

  Query Match            22.4%;  Score 848;  DB 7;  Length 427;
  Best Local Similarity  44.6%;  Pred. No. 8.3e-62;
  Matches  185;  Conservative   65;  Mismatches  129;  Indels   36;  Gaps    6;

Qy        270 LGHRRALFEKRKRLSDYALIFGMFGIVVMVIETELSWGLYSKDSMFSLALKCRISLSTII 329
              |  |: | |: | |: :||:    || :||:  |: |      :::   :|| ||:|| :
Db         12 LRRRKRLLEQEKSLAGWALVLAGTGIGLMVLHAEMLWFGGCSWALYLFLVKCTISISTFL 71

Qy        330 LLGLIIAYHTRGVQLFVIDNDADDWRIAMTYERILYISLEMLVYTNH------------ 376
              || ||:|:| : ||||: ||   |||:|:|  :   | ||::|   |
Db         72 LLCLIVAFHAKEVQLFMTDNGLRDWRVALTGRQAAQIVLELVVCGLHPAPVRGPPCVQDL 131

Qy        377 ----TIPGEYKFFWAARLAFSYTPSRAEADVDIILSIPMFLRLYLIARVMLLHSKLFTDA 432
                  | |  :  |            : ||    :||: | |||||: | :|| | :  :|
Db        132 GAPLTSPQPWPGFL----------GQGEA----LLSLAMLLRLYLVPRAVLLRSGVLLNA 177

Qy        433 SSRSIGALNKINFNTRFVMKTLMTICPGTVLLVFSISLWIIAAWTVRVCERYHDQQDVTS 492
              | |||||||:: |   || | |   || :||  :: ||:  || : | ||     : |
Db        178 SYRSIGALNQVRFRHWFVAKLYMNTHPGRLLLGLTLGLWLTTAWVLSVAER--QAVNATG 235

Qy        493 NFLGAMWLISITFLSIGYGDMVPHTYCGKGVCLLTGIMGAGCTALVVAVVARKLELTKAE 552
              :    :||| ||||:|||||:|| |  || ||| ||:|| ||||:|||||||||  |||
Db        236 HLSDTLWLIPITFLTIGYGDVVPGTMWGKIVCLCTGVMGVCCTALLVAVVARKLEFNKAE 295

Qy        553 KHVHNFMMDTQLTKRIKNAAANVLRETWLIYKHTKLLKKIDHAKVRKHQRKFLQAIHQLR 612
              |||||||| | || :| :|| ||:| |: ||||:  :|  ||  |:|||| | ||:  |
Db        296 KHVHNFMMDIQYTKEMKESAARVLQEAWMFYKHTR--RKESHA-ARRHQRKLLAAINAFR 352

Qy        613 SVKMEQRKLSDQANTLVDLSKMQNVMYDLITELNDRSEDLEKQIGSLESKLEHLT 667
              |::: ||| :| |::||:||| ::|||   |:     ||||| :|  ||: ||
Db        353 QVRLKHRKLREQVNSMVDISKMHMILYDLQQNLSSSHRALEKQIDTLAGKLDALT 407
```

Search completed: September 27, 2006, 10:07:52
Job time : 203 secs